DEWEY B. LARSON

# The Road to Permanent Prosperity

# THE ROAD TO PERMANENT PROSPERITY

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# THE ROAD TO PERMANENT PROSPERITY

By

**Dewey B. Larson**

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## CHAPTER 1

# Introduction

Modern man, *homo sapiens,* as he calls his species with a characteristic lack of modesty, has left evidence of his presence in various locations on earth for fifty thousand years or more. During this long interval his fortunes have fluctuated widely, periods of relative prosperity have alternated with grim struggles for survival, but there has been an unmistakable general trend towards a better understanding of the problems of existence, and human life is far different today from what it was in the Old Stone Age. When we stop to analyze this progress, however, it is apparent that the forward movement has been far from uniform. In most fields of activity the gains have been meager and painfully slow. Indeed, in some of these fields it is questionable whether we have advanced much beyond the point where our ancestors stood at the dawn of recorded history. Politically, war and the threat of war are still the same psychological and material burden on the nations of today as they were on the rival tribes of the prehistoric era. Economically, the great majority of the human race still live under one version or another of the same primitive communal economic organization that developed from man's first awkward efforts at group living, and where more advanced systems have evolved they are imperfectly understood and ineptly handled. Ethically, the conduct of the populace in general is still far below the standards of even the earliest of the great moral and religious teachers.

In striking contrast, progress toward understanding and control of the physical environment has been outstanding, and during the last few centuries knowledge in this field, the province of physical science and its applied branches, has been expanding at a rate that might well be termed explosive. Recent spectacular achievements in certain special areas have merely dramatized this rapidly accelerating forward movement which is taking place all along the

physical front. This situation wherein one branch of knowledge is continually reaching out for new worlds to conquer while its fellows still grapple unsuccessfully with the problems of the Cave Dwellers is a strange anomaly in our present-day society, and the reasons for the extraordinary disparity deserve much more serious consideration than they are commonly given.

A comparison like this is usually shrugged off with the assertion that the problems in these other fields are more difficult than physical problems, and that the slower rate of progress is due to this factor. We are entitled, however, to take this kind of a contention with a grain of salt. It is one of those statements that can neither be proved nor disproved, the kind of an explanation that is made to order for those who wish to rationalize failure to reach their goals. From a purely detached point of view it is hard to understand why the maintenance of full productive employment, for instance, should warrant being classified as a more difficult task than the design and manufacture of an airplane. If exactly the same methods had been applied to the solution of both problems we might perhaps be justified in concluding that the problem which resisted these methods was the more difficult, but where totally different methods have been utilized we are certainly not out of order in suspecting that failure in one case and success in the other is a reflection of the relative adequacy of the methods used, rather than of the relative difficulty of the problems.

> One of the most significant discussions now in progress turns on how far the methods by which the astonishing results in pure and applied science have been achieved may be transferred to other human activities.[2]
>
> – James B. Conant

Of course, many economists contend that scientific methods are not applicable in their field. Frank H. Knight, a prominent economist of the post-World War I era, wrote extensively on the subject, and expressed the opposing view clearly. He characterized "the notion that social problems can be solved by applying the methods by which man has achieved mastery over nature" as "false, and illusory." In support of this conclusion, however, he makes this statement: "But obviously, the basic problems are value problems, to which natural science has little relevance... It [science] shows how to do things, how to achieve a concretely defined objective, not what objectives to pursue."[3]

The implication of this statement is that the identification of "what objectives to pursue" is the primary task of economics, and that the issue of "how to reach a concretely defined objective" is irrelevant. Paul Samuelson makes the same point by defining the objective of economics as obtaining the answers to three questions, all of which are addressed to the issue of "what objectives to pursue." He lists the following:

1. What commodities shall be produced and in what quantities?
2. How shall goods be produced?
3. For whom shall goods be produced?[4]

We need look no further to see why progress in economics has been so slow compared to the rate of advance in the scientific fields. The inevitable result of the policy of concentrating attention on identifying the objectives is that economics is now long on commendable objectives and short on methods by which to reach those objectives. Clearly there is a wide gap here that needs to be filled by systematic study of the factual side of economics, which we may define as obtaining the answers to two very different questions, as follows:

1. How does the economic system operate?
2. How can we manipulate it to attain our defined objectives?

The economists challenge the assertion that there are factual answers to these questions, and even deny that there are factual data that can be applied to a resolution of the issues. From Heilbroner and Thurow we get this assessment of the situation:

> One of the most important attributes of modern history is lodged in a striking difference between two kinds of knowledge: the knowledge we acquire in physics, chemistry, engineering, and other sciences, and that which we gain in the sphere of social or political or moral activity. The difference is that knowledge in some sciences is cumulative and builds on itself, whereas knowledge in the social sphere does not.[5]

Frank Knight agrees. He tells us that "The data with which the social sciences are concerned are themselves not objective in the physical meaning-are not data of sense observations...They consist of meanings, opinions, attitudes and values, not of physical facts."[6] This has been the opinion of the leading economists ever since the beginning

of systematic study in this area. One of the early theorists, Alfred Marshall, explained, "Economics is a study of men as they live and move and think in the ordinary business of life,"[7] and on this basis he asserted that "the actions of men are so various and uncertain, that the best statement of tendencies which we can make in a science of human conduct,. must needs be inexact and faulty."[8] Heilbroner and Thurow say that "economists observe the human universe, just as scientists observe the physical universe, in search of orderly relationships."[9] Jacob Viner, a contemporary of Knight, contended that there are no relationships in economics comparable to those found in science.

> We have no logical justification for belief in the existence of important economic functions that are simple, stable through time and space, and characterized by stable and fixed parameters. The social order is in these respects different in kind, or different in so high a degree as for most practical purposes to be equivalent to a difference in kind, from the physical or even the biological order of nature."[10]

As these statements demonstrate, the economists, by and large, look upon the subject matter of economics as a study of human behavior. They view it as an uncertain and elusive field where exact correlation of cause and effect is impossible. Business, scientific, and technical people, on the other hand, find that the economic forces that they encounter in the course of their daily tasks move steadily and relentlessly forward to their inevitable consequences regardless of human desires and opinions. We have found that if we accommodate ourselves to these natural forces, they can be made to serve our purposes; if we do not, they mow us down without a trace of compassion. The very best of intentions are of no avail; the utmost of human determination is futile. Either we stay on solid economic ground or we go down to certain defeat.

Forces of this kind are no strangers to us. Throughout our everyday work we are dealing with physical forces that display exactly the same characteristics. If we wish to erect a building, we must design the structure in conformity with the physical principles that govern the various elements. If we neglect or refuse to do so, there is no argument about it. The building collapses, and that is the end of the matter. We cannot protest the decision; we cannot appeal to higher authority. So far as our experience would indicate, there is no essential difference between the physical laws and the economic

laws with which we come in contact. Neither can be challenged or ignored with impunity. Neither is affected in the slightest degree by our approval or disapproval.

It is apparent that we are concerned with aspects of the economic process that are quite different from what the economists see. They are focusing their attention on the objectives of economic actions, which are the results of human decisions, whereas we are primarily concerned with the effects of those actions, which are controlled by natural laws independent of human preferences and opinions. Our observation is that when an economic action is once taken, the ensuing events march inexorably forward to definite and certain consequences that are wholly independent of the hopes and desires of those who initiated the action. Here, then, is another side of economics, a field that has been overlooked or disregarded. What we now propose to do, in this work, is to apply scientific methods to an examination of this hitherto unexplored, or at least under-explored, field.

Economists, like the workers in other non-scientific fields, are what the medical profession calls general practitioners. There are different ideas as to methods, to be sure, and individuals have their own personal fields of special interest, but there is no division of labor which is at all comparable to that in the scientific ranks. For example, John Maynard Keynes, the most influential of the modern economists, made his own basic studies and constructed his own theories, thus performing functions analogous to those of the pure scientist. He then applied his findings and his theories to economic problems and arrived at methods for handling these problems which he believed were appropriate on the basis of the theories which he had devised, thus performing functions analogous to those of the engineer. Finally, he took over the role of advocate and worked strenuously and effectively to get his theories and recommendations adopted by governmental agencies and others concerned.

Many other less publicized members of the economic profession have covered similar ground, still others confine their activities to one or two of these three fields, but they are all recognized as "economists." They get their training in the same college classes and from the same textbooks, they read the same journals, and they

belong to the same professional societies. No distinction such as that between pure scientists and engineers is ever made, nor does the economist normally recognize that in waging a partisan battle for the adoption of his favorite economic "reform" program he is stepping outside the field of economics and into that of politics, the determination of public policy.

The final stage of economic planning, the decision-making process, requires consideration of the social and political aspects of the issues under consideration, as well as the economic aspects. These are items of a nature very different from the factual considerations that enter into a determination of how the system operates, and they call for a very different approach to the subject matter. In the absence of any definite subdivision of the field, it is practically inevitable that either one or the other of these different approaches should dominate the thinking and the activities of the economic profession.

It is interesting to note that there was actually a trend in the scientific direction at one time. In the early days of economics in the United States, the authors of two of the most widely used textbooks were scientists: General Francis A. Walker, one of the early presidents of the Massachusetts Institute of Technology, and Simon Newcomb, the celebrated astronomer. (Incidentally, General Walker was the first president of the American Economic Association.) However, the close relation between economics and social problems tended to draw many of those primarily interested in such problems into the economic field, with the result that economics has become a branch of sociology rather than a branch of science, a classification which both the standard library systems and the college curricula recognize.

Unfortunately, the triumph of the sociological viewpoint in economics has had the result of distorting the economist's picture of what is taking place in the world. The individual who looks at economic activities through sociological spectacles sees people in their social settings and classifications, not in their economic environment. For instance, he sees capitalists, a social class, rather than suppliers of capital, an economic class. If he were dealing with social problems, this might be quite appropriate, but it is fatal to the validity of his conclusions regarding economic matters, as the suppliers of capital are not necessarily, or even usually, capitalists

in the social sense. Indeed, there is no economic reason why they should ever be capitalists.

The picture is further distorted because the sociologically oriented economist usually has a strong bias against capitalists (the social class) which prevents him from recognizing the true place of suppliers of capital (the economic class) in economic life. In the subsequent analysis we will find many other examples of this same situation: the socio-economist sees a social picture rather than an economic picture, and when he tries to make economic sense out of what he sees, all too often there is confusion.

Following the usual sociological pattern, the literature of the economic profession is primarily partisan. The great majority of economic writers, past and present, have been special pleaders rather than unbiased searchers for the truth, exponents of a particular point of view rather than impartial judges of the facts. "Economists, in books and articles and letters to the editor, tirelessly urge this policy or that,"[11] says one of their own number.

If the policies that were adopted on the strength of their theories had been successful in practice, the economists would have a good case in favor of continuing to advocate measures based on these theories. But the reality is far different. The pessimistic assessment of the present situation in the economic field by Heilbroner and Thurow has already been quoted. Samuelson likewise concedes that the economic profession has failed to accomplish its principal objectives; it "cannot find the combination of policies that allows full employment, stable prices, and free markets."[12] He admits that "what may be needed are new approaches to the problems of productivity, wages, and price formation."[13]

J. K. Galbraith blames the economy for not conforming with the theories. As he puts it, the American economic system operates "in defiance of the rules"[14] laid down by the economists, and those rule-makers cannot account for what Galbraith admits is, at least at times, a "brilliant" performance. Joan Robinson, a devout Keynesian, tells us flatly, "It is impossible to understand the economic system in which we are living if we try to interpret it as a rational scheme".[15]

When those who have undertaken the task of analyzing our economy not only admit that they are unable to discover the true

rules by which it is governed, but come to the conclusion that it has no rational basis at all (which means that the remarkable results that the system achieves must be accidental), then common sense warns us that it is no longer sound policy to continue relying on the methods and procedures that have brought us to this dead end.

We need to recognize that the basic elements of economics are purely factual. The underlying reason for all economic activity is the iron law that man must work or starve, a law that the human race as a whole cannot evade, no matter how distasteful it may be. Similarly, the primary economic processes are governed by fixed and immutable principles which are beyond the reach of human powers. Any action taken in defiance of, or in ignorance of, these principles must inevitably fail in its intended purposes, no matter how commendable the objective of that action may be.

Under present conditions relatively few people recognize the existence of these matters of fact in economics. The socio-economists present their arguments for or against proposed measures which involve factual questions – price controls, public works programs, minimum wage laws, employment measures, etc. – almost entirely on the basis of the desirability of the objectives at which the measures are aimed, with little or no reference to the question as to whether such measures are capable of reaching those objectives. With very few exceptions, legislators decide whether to vote for or against legislation of this nature on exactly the same basis that they use in deciding how to vote on purely policy measures, never realizing that in the former case the hard facts of economic life may nullify, or even reverse, the effects which they are trying to produce by passing such laws. Far too many economic experiments initiated with enthusiasm and high hopes have ended in bitter disappointment because their authors ignored or disputed the existence of permanent and unchangeable laws and principles in the economic field.

> We live in a period in which most of the conventional wisdom of the past [in economics] has been tried and found wanting. Economics is in a state of self-scrutiny, dissatisfied with its established premises, not yet ready to formulate new ones. Indeed, perhaps the search for a new vision of economics... is the most pressing economic task of our time.
>
> – Heilbroner and Thurow[1]

## CHAPTER 2

# The Scientific Approach

The primary thesis of this volume is that the fundamental principles governing the economic system are purely factual and should therefore be removed from the branch of sociology now designated as economics, and should be reconstituted into a new discipline which, for want of a better term, we may call economic science. This new branch of knowledge should be handled by scientists by means of the accepted methods of factual science, and should be recognized as an integral part of the scientific field, a subject that is taught in a College of Science, where one exists, rather than a College of Liberal Arts, and is indexed under Science – classification 500–rather than under Sociology – classification 300.

There is no implication here that factual science is basically on a higher level than non-science or that it involves any superior manifestation of human ability. As Joseph Schumpeter puts it, "There should be no susceptibilities concerning "rank" or "dignity" about this; to call a field a science should not spell either a compliment or the reverse."[16] The argument for transferring the factual aspects of the non-physical subject matter to science is not based on any special abilities that scientists may have, but on the superiority, in application to factual material, of the methods that scientists utilize, methods that are very difficult to fit into the working practices of disciplines that deal mainly with opinions and judgments.

In this connection it should be noted that the special merits of the scientific approach to factual questions are not restricted to those fields of human activity that are primarily factual, they apply to the factual areas of all fields, and they are not applicable to the non-factual sectors of any of these fields, even those that are popularly supposed to lie entirely within the scientific domain. It logically follows that for best results the factual aspects of all fields of activity

should be treated by scientists, and through the agency of those scientific methods whose efficacy in dealing with factual matters has been clearly demonstrated. In other words, the conclusion to be drawn from the foregoing discussion is that the factual portions of all branches of human knowledge should be separated from the non-factual remainder and should be turned over to science, just as music, for example, makes no attempt to deal with the fundamentals of sound, upon which all music is based, but leaves such matters in the hands of science as a sub-division of physics.

This brings us to the question as to just what constitutes the scientific method. What is there in the working habits of the scientific profession that is absent in other fields? Curiously enough, even the scientists themselves do not always agree on this point. They do not question that the spectacular results achieved in the physical fields are products of the scientific method, but there is no uniformity in the definition of this method. Most individuals, both within and without the scientific profession, are inclined to associate the term "scientific" with the painstaking, systematic, mathematical approach which characterizes the work of the scientist as he is usually pictured. But even a casual survey of the history of science shows that many brilliant and successful scientists have followed a totally different working procedure, and some important scientific discoveries have originated from intuition or pure chance, with little or no systematic work having been done. Although most scientific studies do follow a rather definite pattern, these historical data show that we must rule out the idea that this pattern is the essence of the scientific method. What, then, is the distinctive feature of science?

The answer to this question is readily accessible to anyone who undertakes research work in both the physical and the non-physical areas. He will find that he can apply the same working procedures in both cases. Whatever his personal technique may be-whether he works slowly and deliberately with meticulous attention to detail, or whether he relies more on intuitive processes to carry him swiftly forward, touching only the high spots as he advances-he can apply his favorite technique equally as well in one field as the other. He will find subject matter of essentially the same nature in both areas. The subject matter customarily treated in non-scientific studies

differs substantially from that normally treated in science, but, as will be brought out in the discussion that follows, the same types of subject matter actually exist in both cases, and the differences in the character of the topics generally treated in the two fields are merely the results of selectivity on the part of the investigators. He will find that the results obtained outside the physical fields, where meaningful results do emerge from the investigations, are equally as significant as the physical discoveries. From the standpoint of immediate practical application to present-day problems the results in the economic and political fields, for example, may well be of even more importance than the sensational physical achievements.

Up to this point there is little, if any, distinction that can legitimately be drawn between scientific and non-scientific studies. But there is a very important difference in what happens after the work has been done and some significant results have been obtained. In physical science there is general agreement that the judgments which are passed on new ideas originating from such findings should be based on purely objective criteria, the most important requirement being that these ideas must be consistent with the observed facts. In the non-physical fields, on the other hand, there are no objective tests which are regarded as authoritative, and acceptance or rejection of any new idea is primarily a matter of personal preference.

Like all other human institutions, the existing scientific organization is imperfect, and it moves slowly and erratically toward its defined goal rather than smoothly and swiftly, but because the facts of observation are, at least in principle, accepted as the ultimate authority, there is a definite mechanism in operation whereby the areas of disagreement are continually narrowed, and the accepted body of thought in the physical field is enabled to move ever closer to the ultimate truth. In the non-physical fields, where objective tests are lacking, as matters now stand, there are no means by which the relative merits of conflicting ideas can be evaluated on any consistent basis, or by which correct answers can be recognized as such if they do appear. Consequently, the gains in those fields are limited to those produced by trial and error, and whatever progress is made by reason of one action that proves successful is all too often nullified by ill-advised measures that act in the opposite direction. Sustained

forward progress similar to that in the physical field is impossible without an effective means of separating the false from the genuine.

Here is the essential feature of the scientific procedure: the real difference between science and non-science. Physical science has been established as a permanent and ever-growing body of knowledge not because scientists are more competent than other human beings, or because there are any superior investigative methods applicable only to physical phenomena, or because the field in which scientists work is any more amenable to logical treatment. It has acquired this status because physical science alone among the major branches of human knowledge has set up objective tests by which the relative merits of conflicting ideas can be judged, and confines itself to subject matter that can be thus tested; that is, to purely factual subject matter.

The essential characteristic of the scientific method is that the process of study and investigation is always directed toward the objective of meeting the ultimate test of comparison with the observed facts. On this basis, only factual subject matter can be taken into consideration and only logical and mathematical reasoning can be utilized in treating it. Emotional judgments and wishful thinking are barred. Wherever the term "scientific methods" is used in the discussion in this volume it refers to methods which meet the foregoing requirements, irrespective of whether the work is mathematical or non-mathematical, exact or approximate, general or specific, valid or invalid. It is not necessary to meet the acid test of factual comparison in order to qualify as scientific. Much of the work of science fails to pass the test, and is discarded. A great deal more is simply work in progress that has not yet reached the point where it is ready to face a rigid evaluation. The feature that it must have in order to be classified as scientific is that the work must be aimed at passing the factual test.

Because of the existence of a criterion of validity and its general acceptance as the ultimate authority, controversies and differences of opinion do not go on forever in physical science as they do elsewhere. In each case a decision is eventually reached as to which explanation is true, and this truth is then incorporated into the accepted body of knowledge. As defined by the scientific profession, "truth" is

taken to be synonymous with agreement with observation and measurement. On this basis, anything that is in full agreement with the observed facts is true, within the limits to which the correlation has been carried, anything that approaches full agreement is a close approximation to the truth, anything that conflicts with the results of authentic observations is not true, and anything that cannot be adequately tested by means of the comparisons currently available is merely hypothesis.* (It should be understood that the expression "results of observation" as used in this connection refers only to actual measurements and qualitative observations, and does not include inferences drawn therefrom or theories formulated to explain the factual findings, unless those theories are validated independently.)

This test of validity does not necessarily arrive at an immediate and unequivocal answer in every case, inasmuch as a concept or theory does not normally explain all of the facts within its scope of application, and even if it did, the factual observations and measurements are not infallible. However, the mere existence of an accepted method of test centers the attention of the scientific profession on any unresolved question and keeps the issue in the limelight until sufficient additional information has been accumulated to enable reaching a firm decision one way or the other. As a consequence, the areas of dispute are limited, and in essence the workers in the field of physical science speak with a single voice. It is not necessary for the student of science or engineering to look at the name of the author of his textbook. With very minor exceptions he finds the same information in any text which he may consult.

As a consequence of the methods by which it is obtained and verified, scientific knowledge is permanent. Once a law of science is definitely established it is good forever. We may find as a consequence of more accurate or more extensive observations that the field to which the law is applicable is more limited than was thought originally, but this does not alter the validity of the law in its proper sphere, and the new information represents an extension of knowledge, not a revision. Theories and concepts may be revised, but not knowledge. As Lecomte du Nouy points out, "Science has never had to retract an affirmation based on facts that are well established within accurately defined limits."[17]

Being permanent, scientific knowledge is cumulative. Each bit of information gathered in the ceaseless search for the truth adds to the total. It may refute erroneous conceptions where the facts were not accessible previously, or it may point out hitherto unsuspected limits to the area in which certain accepted principles are valid, but it does not overthrow any laws that have once been definitely established. Science is not vulnerable to the kind of an indictment made of economics by Franklin D. Roosevelt: that it changes its laws every five years.[18]

It is true that there is considerable variation in the details of the methods and procedures utilized by scientists, but these variations are not very significant. We might compare the selection of methods to the selection of a travel route. If we start from New York for some unidentified destination which we cannot recognize when and if we get there, one route is as good as another. But once we have specified that our objective is Chicago, we put ourselves in a position where we are able to determine the relative merits of different routes. We must still admit that we can reach our destination by any one of many paths, and it is therefore incorrect to speak of the route from New York to Chicago, but we can see that certain routes are shorter and more advantageous than others. Just as the bulk of the traffic between these two cities will follow these more efficient routes, the great bulk of the research and experimental work in the physical sciences follows the pattern which experience has demonstrated to be the most efficient.

In the course of developing this most efficient pattern, it has become apparent that there are some very substantial advantages to be gained by functional specialization. Application of any kind of knowledge to human advantage involves three different operations, each of which requires a different type of treatment in order to secure the best results, and each of which calls for quite different talents on the part of those who perform the tasks. Let us consider the building of a bridge, for example. First, we need a great deal of basic information. We must know just what stresses are generated by the various factors that affect the structure-its own weight, traffic, wind, etc. We must know just how the various materials of construction resist these stresses. We must know the strength of the available materials under different conditions, and the means whereby we can

take full advantage of that strength, and so on. This is the province of the pure scientist.

Next on the scene is the engineer, the practitioner of applied science, who extracts from his handbooks and other sources the particular portions of the information developed by the specialists in pure science that apply to the project at hand, and with the benefit of this information determines just what can be done to accomplish the desired objective. He then proceeds to devise practical methods of procedure, utilizing that ingenuity which has given the engineering profession its name. Finally he evaluates the advantages and disadvantages of the different alternatives and makes recommendations as to the course to be followed.

In the last step, these reports and recommendations are reviewed by a third group, a non-scientific group that we may call the decision-makers. These individuals-corporation executives, government officials, others responsible for the general direction of the operations involved, or in major matters, the general public itself-make the final decisions between alternative. Science takes an impartial attitude toward the final decision. The pure scientists normally have no connection with it al all, and the engineers recognize an obligation to present the alternatives in an unbiased manner. The only concern of the scientists of either the pure or applied branches, as scientists, is that all of the known facts which have a bearing on the situation be recognized in their true light and that these facts be given due consideration in arriving at a decision.

One of the first essentials in applying factual scientific methods to the non-scientific fields is to separate these distinct, and frequently conflicting, functions, as a preoccupation with the question of what ought to be done, a question of opinion and judgment with strong emotional overtones, to the exclusion of the question of what can be done, a question of cold-blooded and unemotional fact, is one of the principal factors that has made economics a branch of sociology rather than a branch of science.

Of course, the scientific process does not always operate in a strictly scientific manner. Scientists are also members of the general public, and they do not always distinguish clearly between their different roles in the social organization, but in general the procedure

for handling those activities which lie within the domain of physical science effectively separates the determination of what can be done and how it can be accomplished from the decision-making process itself. This has the very valuable result of confining the ultimate decision to a selection from among effective and feasible alternatives, rather than leaving it wide open, as in most non-scientific areas, where all too often the final decision favors a program which cannot possibly operate in the intended manner, and would not produce the desired result even if it were operable.

It will no doubt come as a surprise to most readers to be told that outside the realm of physical science there is no accepted method of separating the true from the false. If he gives any consideration at all to the matter, the average layman probably assumes that conflict with the observed facts automatically stamps a proposition as untrue regardless of the classification into which it falls. But even a brief survey is sufficient to show that this is not the case. Religious, political, sociological, economic, and other non-scientific writings are full of diametrically opposite statements about matters which are subject to observation or measurement, but such conflicts in those areas cannot be resolved by appeal to the facts because the facts are not accepted as the superior authority. This is obvious in the case of religion. An observed fact which conflicts with a religious doctrine is meaningless, so far as the adherents of that religion are concerned, since the religious doctrine is by definition superior to physical manifestations such as those subject to observation, and the inferior cannot overrule the superior.

The same attitude carries over into the other non-scientific fields to such an extent that many observers have been constrained to comment upon it. What has been said about economics is particularly appropriate to the present discussion. "No political or economic program, no matter how absurd, can, in the eyes of its supporters be contradicted by experience,"[19] says L. von Mises. Keynes points out that "In the field of economic and political philosophy there are not many who are influenced by new theories after they are twenty-five or thirty years of age," and he remarks, "One recurs to the analogy between the sway of the classical school of economic theory and that of certain religions."[20]

As a result of this prevailing attitude there is no recognized method whereby valid ideas in these non-scientific fields can be separated from those that are not valid. A theory once proposed can never be definitely discarded. As long as it has an emotional appeal to someone it is given serious consideration, and has a certain degree of respectability. The originators of these theories do not submit their conclusions to the test of comparison with the facts, nor do they organize their activities with a view to passing such a test. This point has not gone unrecognized in professional economic circles. For instance Professor Douglas Hague made this significant admission,

"I support Joan Robinson's claim that the great obstacle to applying scientific method in the social sciences "is that we have not yet established an agreed standard for the disproof of an hypothesis."[21] Ernest Nagel makes this comment:

> It is also generally acknowledged that in the social sciences there is nothing quite like the almost complete unanimity commonly found among competent workers in the natural sciences as to what are matters of established fact, what are the reasonably satisfactory explanations (if any) for the assumed facts, and what are some of the valid procedures in sound inquiry... In contrast, the social sciences often produce the impression that they are a battleground for interminably warring schools of thought, and that even subject matter which has been under intensive and prolonged study remains at the unsettled periphery of research.[22]

In economics, these weaknesses of theory and practice are so obvious and of such long standing that they have become a "cause of anxiety" in professional circles, according to a news report of a meeting of the American Economic Association. Speakers at this meeting, the reporter says, were disturbed by "the inability of economists to arrive at a deeper and more reliable understanding of the functioning of national economies (despite the continuous increase in the elegance and complexity of economic analysis) or to discover workable solutions for the key problems of the day."[23] Some members of the profession have arrived at the conclusion that these shortcomings are impossible to overcome. Knight, for instance, renounces all hope of the kind of success enjoyed by physical science. "I must say," he tells us, "that prediction or control, or both, do not and cannot apply in a literal sense in social science."[24]

Such appraisals of the present status of economics coming from within the economic profession itself confirm the contention of this work that a basic change in methods and procedures will be necessary before satisfactory progress toward our economic objectives can be made. If this were some field of abstract knowledge on the order of paleontology or non-Euclidean geometry, we might well view the situation with equanimity, and leave matters in the hands of the profession immediately concerned, trusting in the principle that the right will prevail in the long run. But in a matter so vital to our personal welfare we cannot afford to take this philosophic long-range view. The present-day comforts and conveniences of which we are deprived by the inefficient utilization of our facilities under the handicap of unrealistic theories and policies are gone forever.

One of the conspicuous features of economic theory as it now stands is its fragmentation. In general, economic thought has developed independently in the various areas involved, without any kind of a common denominator, and as a result the theories in the different areas not only lack the mutual support that would be achieved by a better integration or continuity of the theoretical framework, but are actually contradictory in many cases. For example, James Tobin reports that "The intellectual gulf between economists" theory of of the values of goods and services and their theories of the value of money is well known and periodically deplored."[25] This is only one of many such contradictions.

Because of this lack of a comprehensive basic theory, the theoretical viewpoint of the modern economist is a mixture of valid ideas and concepts with others that are totally or partially wrong, each individual economist having his own special assortment. And since the economic profession as a whole has no better criterion of validity than the individual, it all too frequently happens that the valid ideas of an economic theorist are the ones that are rejected, while the economic community embraces the erroneous theories wholeheartedly. For instance, Keynes' appraisal of the results achieved by wage bargaining between workers and employers, which is essentially correct, is rejected by most economists, while his concept of the multiplier, which is completely erroneous, is almost universally accepted.

We in the United States, by virtue of many factors, some for which we can take credit and others that are largely fortuitous, have been able to develop the world's most efficient economic system. It is now our responsibility to make that system work smoothly, and to devise whatever improvements are required to keep it abreast of changing conditions. The socio-economists have thus far been unable to provide us with the information and theoretical background that we need in order to carry out this responsibility, but we cannot justify accepting this defeat as final., We have at our disposal more efficient methods than those which have thus far been applied to the task, and the primarily purpose of this present work is to demonstrate that by the use of these methods we can accomplish our objectives.

This is the background against which the proposal for the establishment of an independent economic science is being advanced in this work. The questions that need to be answered-questions as to how the economic system operates, what causes the various difficulties to which it is now subject, what measures are required in order to overcome those difficulties, and so on-are purely factual questions. The methods described and utilized herein, those that the scientists call "scientific," are unquestionably the most efficient means thus far devised for handling matters of a factual nature, and it is the contention of this volume that inasmuch as the need for improvements in the handling of these economic questions is obvious and acute, the mere existence of more efficient and powerful techniques is a strong argument for applying them to the factual aspects of economics.

This suggestion does not conflict with the objectives of those who agree with Alvin Hansen that "Economics... must in a sense, become a branch of moral philosophy."[26] On the contrary, splitting the present mass of diverse material into a factual economic science and a socio-economics would strengthen their position, so far as the portion of the subject matter remaining in the sociological classification is concerned. It is the attempt to apply "economic ethics" to matters of cold and impersonal fact that creates confusion and impedes progress in the economic field.

Unquestionably, the most important economic problem now facing the United States is the matter of unemployment, not only because employment is the originating force in the economy, but also because

elimination, or at least reduction, of unemployment is a prerequisite for solution of many other economic and social problems. The analysis of the operation of the economic system carried out on the scientific basis described in the foregoing pages has revealed, however, that employment is governed by a set of natural laws and principles that are independent of those that govern the operation of the exchange system. The entire employment discussion, including the definition of the employment laws and principles, has therefore been separated from the remainder of this report of the results of the investigation, and was published in 1976 under the title *The Road to Full Employment.*

The mere fact that the employment problem can be disassociated from the other aspects of economic life, and subjected to independent analysis, is a clear indication of the vast difference between the findings of this factual scientific study and the conclusions that have previously been reached by orthodox economic methods. Present-day economics regards unemployment and inflation as merely two aspects of the same thing. In fact, almost all of the proposals for improvement of the economic situation that are currently in vogue, aside from those which would make work at public expense, or attempt to solve the job problem by reducing the labor force, plan to accomplish their objective indirectly through inflationary stimulation of business activity.

> We know how to reduce unemployment by raising aggregate demand, but we do not know how to do so without creating unacceptable levels of inflation.[27]
>
> (Heilbroner and Thurow)

A critical investigation of the employment situation by means of the scientific methods and procedures outlined in the previous pages shows that these authors and their colleagues are totally-and we may say, tragically-wrong in this respect. The scientific analysis carried out in this work reveals that employment and business stability are fundamentally separate, and are governed by different principles. There is no necessary connection between the two. In general, the high level of business activity that results from inflation favors a high level of employment, and unfavorable business conditions are normally accompanied by increased unemployment, but the relation is indirect, and, except during the extremes of the business fluctuations,

is uncertain. A large amount of employment may exist when business is enjoying a substantial degree of prosperity, and prices are rising, as experience has clearly demonstrated. Conversely, our analysis shows that it would be entirely possible to maintain full productive employment during the worst business depression, if the appropriate actions were taken.

The dilemma that the nation now faces, according to the almost unanimous judgment of the economists, the necessity of choosing between the twin evils of inflation or unemployment, is thus wholly imaginary. Factual analysis shows that the current stage of the business cycle is not the determinant of the amount of unemployment, as accepted economic theory asserts; it is merely one of many factors that affect the true determinant. As brought out in The Road to Full Employment, there are many possible economic actions that have the same effect on employment as the inflationary price rise that the economists now regard as the only weapon in their arsenal, and since most of these alternatives have no inflationary effects, the employment program can be completely independent of the business stabilization program. With the help of the information provided by a factual economic science we can have both full productive employment and business stability.

## CHAPTER 3

# Economic Objectives

It was pointed out in the preceding chapters that economics, as now constituted, has both factual, purely economic, aspects, and non-factual, mainly sociological, aspects. As a consequence of this dual nature of the subject, present-day economists have both economic objectives, applying to matters specifically related to the organization and operation of the economic system, and social, or sociological, objectives, which apply to matters specifically related to human welfare.

As indicated by the quotation from Samuelson in Chapter 1, it is the social goals that are the economists' main concern. The question as to *how* goods should be produced is primarily technological, while the questions as to *what* goods should be produced, and *for whom* they should be produced are mainly social, or we may say, socio-economic. But the true purpose of the economic organization is to get the goods that the consumers want into their hands in return for their labor. Any measure having a different purpose is aiming at a non-economic, or at least not purely economic, objective. For instance, a measure designed to increase the income of a particular group-the "poor" perhaps-is directed at a social objective, not an economic objective, because from the standpoint of economics all consumers are alike. A measure designed to protect the public from the harmful effects of a certain product is likewise aimed at a social objective. All goods are alike from the economic standpoint.

These comments about the nature of the objectives of the economists do not imply that there is anything wrong with social objectives, or that they are in any way inferior to purely economic objectives. The point that is here being emphasized is that the factual objectives, the real *economic* objectives, are now being pushed aside while the

economists pursue their *social* goals. The answers to their "fundamental problems," when and if obtained, will not tell us how the economic system operates or how we can manipulate it to serve our purposes. They are merely advice as to what our purposes ought to be.

This advice is something that we no doubt need, just as we need advice from other branches of sociology, based on the results of studies and investigations, and in undertaking to fill this need the economists are aiming at a worthwhile objective. But the human race is not so constituted that an individual can envision sociological objectives, and dedicate himself to the task of promoting the economic "reform" measures that he believes will accomplish those objectives, and at the same time maintain the emotional detachment necessary for carrying out a factual analysis of the subject. The inevitable result is that the socio-economist fixes his attention on what he thinks ought to be, rather than on the scientific objective of ascertaining what is.

Since the factual aspects thus recede into the background, they come to be regarded as items to be manipulated in support of the "reform" proposals, rather than items to which these proposals must conform if they are to be successful. "The tendency is strong, unfortunately," says F. N. Harbison, "to marshal facts which best support deep-seated convictions rather than to use them to question where the truth may lie."[28] Galbraith gives us a similar explanation for the failure of certain economic studies to produce any significant results: "A vivid image of what *should* exist acts as a surrogate for reality. Pursuit of the image then prevents pursuit of reality."[29]

Such results must be expected. A person cannot commit himself emotionally to a view of how the economy *should* operate, and at the same time maintain an unbiased position toward the question as to how it *does* operate. When he enlists under the banner of "reform" it is no longer psychologically possible for him to give impartial consideration to the factual aspects of his subject. Samuelson's list of "fundamental economic problems" demonstrates this point. None of these problems has a factual answer. We must conclude that questions as to how the economy operates and what can be done to achieve our economic objectives are not "fundamental problems" to

the present-day economist. But they must be fundamental problems for someone. As painful experience has so often demonstrated, the making of decisions is futile unless we known how to carry those decisions into effect. The economists' concentration on defining objectives has therefore left a vacuum.

What we are proposing is not that economic science should take over the functions that the economists are now performing, but that it should address itself to the tasks that the economists are leaving undone; that is, fill the vacuum that they have left by becoming sociologists-or, as they prefer to say, social scientists-and losing sight of the factual aspects of economics. Economic science, as defined in this work, does not attempt to make decisions on Samuelson's fundamental problems, or other matters of public policy, nor does it even attempt to influence such decisions. Its task is to supply the information that will enable an intelligent choice of objectives and will enable formulation of effective measures for attaining those objectives. *Before* the decision as to the objective is made, economic science can provide information about the working of the economy which will identify the possible alternatives and will enable evaluating and comparing them. *After* the basic decisions are made, it can determine the various practical means by which the selected objectives can be reached, and the advantages and disadvantages of each, thus facilitating the second type of public policy decision: the decision as to what specific steps should be taken to attain the objectives.

To illustrate these points, let us formulate the analogous problems involved in the physical example cited earlier, the construction of a bridge. The first problem, the question as to *what* should be done, becomes merely a matter of whether or not the bridge should be built. The second, the *how* problem involves selecting the design and choosing the materials of construction. The third problem, *for whom,* reduces to questions as to the location of the bridge structure and its approaches, as each alternative will be more advantageous to certain individuals and less advantageous to others.

The pure scientist is not involved in these questions at all. He supplies some basic information that will be useful in this

connection, but only in exceptional cases will this information be developed for the specific job. Normally it is part of the great accumulation of scientific knowledge. The engineer will take part in the consideration of these problems, particularly the second and third, and will submit his analysis of the various alternatives together with his recommendations. But he will not take a partisan stand in favor of one alternative or another, and he will not expect to make the decisions. *All of these problems are problems of the community,* and the decisions will be made by the general public, or their representatives, not by the scientist or the engineer.

"Economic problems" of the kind specified by Samuelson are likewise problems of general public policy, analogous to such questions as to where a bridge should be built, whether we should construct a new post office or remodel the old one, whether we should widen a crowded highway, and so on, not to the questions for which the scientist or the engineer provides specific answers. The problems appropriate to science have answers that can be *discovered,* and once these answers are found and definitely verified they are final, regardless of whether or not they meet with anyone's approval. The answers to this list of "fundamental problems," on the other hand, cannot be discovered. They must be *decided upon,* and no individual or group can make a decision that will be binding on all individuals or groups, or which is not subject to future reversal. No such decision can be final. These problems and their answers are not matters of fact; they are matters of opinion, and therefore outside the scope of economic science.

In order to get the proper perspective on the economic issues we need to examine them in their economic setting, not in their social setting, their political setting, or their geographical setting. For example, there is an important distinction between *capitalists*, a social class, and *suppliers of capital,* an economic class, that has already been mentioned. Similarly, such concepts as land, entrepreneur, laborer, etc., as they are used in present-day economics, are primarily *social* concepts, not *economic* concepts. This work will eliminate the purely social concepts from the discussion, and will redefine those that have both social and economic significance to bring them into line with their true economic significance.

Elimination of social distinctions avoids the confusion which results from joining dissimilar concepts. The function of "owner," for example is economically distinct from that of "manager." It is true that there are many combination owner-managers, and it is not at all unusual for the owner to retain some of the managerial duties even where he employs a manager. But there is no *necessary* connection between owning and managing, as the rise of a professional managerial class in modern times clearly demonstrates, and any definition which assigns both functions to one economic entity, such as an entrepreneur, cannot adequately cope with economic situations in which these functions are handled separately.

A combination of functions is quite characteristic of economic life, particularly in its simpler forms. The farmer, for instance, is a supplier of labor, a producer, a consumer, and usually a supplier of capital. In order to get a correct picture of the economic processes in which he participates, we have to recognize these different roles. We cannot look upon him simply as an individual performing certain functions appropriate to farming, or as a unit of the society in which he exists. Such viewpoints are appropriate from a social standpoint, but for economic purposes we must look upon him as a producer when he acts in that capacity, a supplier of labor insofar as he personally takes part in the productive work, a supplier of capital insofar as he owns the land or equipment, and so on.

The function of the producer is to utilize labor and the services of capital to produce goods. It is essential to distinguish clearly between the person or agency that performs this function and the suppliers of labor and capital. The worker who operates a lathe takes part in the production process, to be sure, and so does the supervisor who oversees his work, but neither is individually acting as a producer in the economic sense. Both of these individuals are suppliers of labor. The enterprise or individual by whom they are employed is the producer. The capital is obtained from another set of individuals: owners or shareholders who supply equity capital (risk capital) and creditors who supply debt capital.

A clear distinction between factual and social issues will enable evaluation of objectives from the standpoint of whether or not they

can be obtained by the means it is proposed to use. It is important to recognize that non-economic objectives, such as the purely social objectives that are the primary concern of the present-day socio-economist, cannot be attained by *economic* means; that is, by manipulating the mechanisms of production and exchange. Lack of recognition of this point is the reason for the failure of many economic programs aimed at what most persons would consider desirable objectives.

As pointed out earlier, none of the items listed by Samuelson as the "fundamental economic problems" has a scientific solution. These are social, political, and technological problems. They may have answers, but they are not factual answers that can be obtained by scientific methods; they are matters of opinion and judgment. For example, *consumers* constitute an economic class. The questions as to whether the income of consumers can be increased, and if so, how, are therefore economic (and technological) questions that have factual answers. On the other hand, the poor and the rich are social classes. Thus the questions as to how, and whether, to raise the income of the poor at the expense of the rich (a favorite objective of the economists) are social issues that have no factual answers.

The economists' failure to draw this distinction between the factual and the non-factual, and to adapt economic thinking to the difference is primarily responsible for their persistent advocacy of "something for nothing" schemes of one sort or another, and their inability to deal with the factual problems of the present-day economy such as inflation and unemployment, a failure that is leading many in the profession to question whether solutions to these problems even exist. Samuelson, for instance, says:

> Particularly during the last decade, poor economic performance and the rise of contending schools of economic thought have led many to doubt whether the fiscal and monetary authorities can do anything to improve economic performance.[30]

The chapters that follow, which *do* make the distinction between the factual and the non-factual, will cover only one part of the field that is included in present-day "economics," but by dealing only with factual matters, and using factual methods, they will arrive at those factual answers that have eluded the economists.

The minimum wage issue is a good example. The minimum wage laws now in effect in the United States attempt to accomplish a social objective, assuring an adequate income to all workers, by economic means; that is by modifying the normal operation of the price system, and paying sub-standard workers more than they would normally receive. But the economic mechanism responds to that interference in its own way, not in the manner anticipated by the lawmakers. The usual result is to deny employment to the workers the law was intended to benefit. This point is recognized by the great majority of economists, but the public does not have enough confidence in the conclusions reached by the economists to accept them if, as in this case, they are unwelcome.

The same kind of a reaction of the mechanism takes place in response to the attempts that are continually being made in nearly all countries in the world to improve the living standards of the workers by raising money wages. Here again the economic system responds in its own way. It reacts with inflation, not with higher *real* wages.

The stumbling block for all such measures is *cost.* The individual enterprise economic system operates on a minimum cost basis, and whenever an additional cost is imposed on any portion of the mechanism, the system responds in such a way as to restore the minimum cost condition. In the minimum wage case this is accomplished by excluding the sub-standard workers from employment. In the case of money wage increases, it is accomplished by absorbing the increase in the relation between money wages and real wages. The same fate awaits all such schemes, however ingenious they may be. The economic mechanism cannot be outwitted.

Sooner or later the nation, and the world at large, will have to accept the fact that attainment of any social objective, other than those automatically accomplished by processes such as technological progress that work in harmony with the economic mechanism, involves a cost, and provision should be made for meeting that cost from public funds. Otherwise, the attempt to reach the objective will fail, unless it is possible to shift the cost burden to the public through the price mechanism. As will be brought out in the subsequent discussion, attempts to impose the cost on the producers (employers)

are futile. The hope that it will be lost in the intricacies of some ingenious scheme for creating synthetic purchasing power out of nothing is likewise doomed to expire in the light of cold reality.

The separation of the factual aspects of economics from the sociological aspects that we are here proposing should also go a long way toward clarifying the present ambiguous position of the economist. The professional workers in the field of economics feel that they should rightfully be accorded the same kind of an authoritative status that the scientists enjoy in their field, but all too often the economists' recommendations meet the kind of reception indicated by the quotation from Franklin Roosevelt in Chapter 2. "Economists," says Max Black, "are sometimes treated like witches in otherwise civilized communities."[31]

What is being overlooked here is that the scientist and the engineer maintain their authoritative standing only because they confine themselves to factual matters, and do not try to make the decisions. The role of the engineer is well understood, both by himself and by the community, and his recommendations are seldom overruled for physical reasons, although they are frequently overruled *for other reasons.* An engineering recommendation for a cantilever bridge, based on lower cost and equal or better serviceability under the existing circumstances, may well be rejected by a community that prefers a suspension bridge on aesthetic grounds, but this does not imply any doubt as to the soundness of the engineering recommendations. It simply means that other considerations outweigh the engineering aspects in the minds of the citizens who make the ultimate choice.

The world is no more willing to let the economists make the decisions in economic matters than it is to let the engineers make the decisions in physical matters. Where the public rules, such decisions are made by the general public; where others rule, they are made by the rulers, whoever they may be. In any event, they are not made by the engineers or the economists, except to the extent that those individuals are also members of the general public or the ruling group. The difference is that the engineer recognizes the logic of this situation and accepts it as a matter of course; the economist usually,

or at least frequently, does not. The sense of frustration which the economists so often mention, and more often reveal by the way in which they express their views on matters of public policy, has its origin in their conception as to the functions of their profession, a conception that is not accepted by the community at large.

Of course, the economist suffers from the fact that he is so frequently wrong, and in some instances, as in the predictions of economic conditions that would follow the conclusion of World War ii, spectacularly wrong, and he is further handicapped by the inability of the members of his profession to agree among themselves, but the primary reason why the recommendations of the economist are not given the same weight, and the same respectful consideration, as those of the engineer is that the economists' recommendations are not based solely, perhaps not even primarily, on economic principles. They are dictated to a large, and often controlling, degree by non-economic (mainly social) preferences and prejudices. The average citizen knows, even though he may not stop to analyze the situation very closely, that the advice which he gets from the economist on a subject such as a price control measure, for example, is not like the recommendations of the engineer, designed to aid the public in getting the results which *they* want; it is designed to accomplish what the economist believes *should* be done. The mere fact that economists can be, and commonly are, categorized by such terms as "liberal" or "conservative" is a clear indication of the difference. We do not have "liberal" engineers.

As brought out in the foregoing discussion, the ostensibly economic objectives that present-day economists identify as their principal concerns are actually social, or no more than socio-economic at most No general agreement has ever been reached as to what these purely social objectives ought to be, particularly with respect to the degree to which ethical considerations should enter into their conclusions. "Opinions range, or have ranged," says J. M. Clark, "from the view that economics has nothing to do with ethics, to the view that it must formulate explicitly the ethical standards that furnish its setting and give its analysis meaning."[32] From one school of economic thought we get the dictum: "Economics, as a science, is neutral...it can express neither approval nor disapproval,"[33] while at the same time

another tells us just as definitely, "hardly any economic theory can be considered ideologically neutral."[34]

We can, however, define the objectives of *economic science.* They are to determine the principles and relations governing economic processes and to apply this information to devising the most efficient means of attaining the economic objectives designated by the appropriate agencies of organized society. What we are undertaking in this work is to apply the time-tested methods of the physical sciences – not the methods which the economists have been calling scientific, the methods of the social sciences, but the methods which *scientists* actually use, and which *they* call scientific – to the factual aspects of economics to see whether we can duplicate some of the highly satisfactory results that have been thus obtained in the physical fields.

Subdividing according to the scientific pattern, we can say that the objective of pure economic science is to determine the nature and characteristics of the relations that exist between the various economic entities and processes, and the objective of applied economic science is to determine how the information developed by the scientific investigators can best be applied to accomplish whatever ends the individual, group, or society as a whole may choose to seek.

## CHAPTER 4

# Value

When the fullback carrying the ball through the opponent's line is finally stopped and the referee's whistle blows, it is often impossible for the onlooker to determine at the moment just what has happened; whether there has been a gain or a loss, whether the offensive side still has the ball or has lost it on a fumble. All that one can see is a confused jumble of players with an arm sticking out of the pile here and a leg protruding there. We cannot tell which, if any, of the players that we see actually have a grasp on the ball and which are merely part of the pile. But the referee moves in and one by one picks out those who are mere trimmings until he finally gets down to the essential participants in the play and is able to determine just where matters stand.

To the casual observer – and to many of the professionals in the field as well – the economic scene presents a very similar appearance of confusion. All that we can see on the surface is a tangle of finance, markets, corporations, labor unions, foreign trade, money, transportation, credit, wages, profits, and so on almost without end. So in order to get a starting point from which to begin an analysis we need to adopt the tactics of the football referee and clear away the nonessentials and collateral matters one by one until we get down to the fundamental economic processes. When we do this, and examine each item from the standpoint of whether or not the business of making a living, the primary objective of all economic activity, *could* be carried on without it, we find that none of the items that were mentioned is actually essential. In fact, there are only two things that are indispensable features of economic life: production and consumption.

In the dawn era of human existence on earth life had not progressed beyond these fundamentals. The prehistoric people gathered

their food by their own unaided efforts and took shelter wherever they could find it. Long before the beginning of recorded history, however, they had discovered that by devoting part of their efforts to the making of tools they could multiply the effectiveness of their direct labor manifold. Thus the simple economic life took a step toward becoming more complicated. As time went on, the hunter who had met with exceptional success and had more meat than he could use found that this excess could be traded for the surplus fruit or vegetables in the possession of others, to the advantage of all concerned. Barter thus joined the growing list of economic processes.

At some point it was recognized that Willie Dogtooth had an exceptional skill in making arrowheads, and it dawned upon the hunter that there was a substantial gain to be made by trading meat to Willie for the necessary arrowheads and devoting his own time to hunting, a vocation at which he excelled, rather than continuing to make his own clumsy and inferior weapons. Willie was consequently relieved of the necessity to forage for food and was able to concentrate on his own specialty, the making of arrowheads. Here we have the beginning of specialization of effort, another milestone along the way to a more complex economic life.

All down through the ages this process continued. As man's general knowledge broadened, more and more new devices were invented to facilitate the task of making a living and to enable enjoyment of a greater variety of comforts and conveniences with the expenditure of less and less effort. But all of this increase in complexity merely added external accessories to the machine. It did not alter the basic purpose of economic activity, and it did not alter the fundamental fact that all of this activity is built around the complimentary functions of production and consumption. The end toward which economic action is directed is consumption, and the prerequisite for consumption is production. Thus the important functional division in economics is not between labor and capital, or between government and industry, or between rich and poor, but between producer and consumer.

This distinction is largely academic in the first stage of economic development where each economic unit – individual, family, or

tribe – consumes its own products. But just as soon as the second major stage comes into being with the introduction of barter, all products of effort take on a dual aspect. To the consumers, the individuals who expect to receive the benefits of these products, or *goods,* as we will call them, they are articles to be consumed and enjoyed, but to the producers they have an entirely different significance. From the producers' viewpoint they are not goods (articles of consumption) but a means whereby such goods can be obtained. In other words, they constitute *purchasing power.*

A favorite device of the early economists was the "Robinson Crusoe" approach to economic problems, in which the points at issue were first examined from the standpoint of an isolated individual, and the conclusions drawn from this analysis were then extrapolated to the more complex economic situations. This approach has gone out of fashion and is less frequently encountered in current practice, partly because it seems somewhat incongruous in the sophisticated setting of present-day economic theory, but also because there has been great difficulty in reconciling the conclusions drawn from examination of the Crusoe economy with modern economic theories. While this might logically be interpreted as an indication that there is something wrong with the theories, most economists have preferred to question the legitimacy of the extrapolation.

Nevertheless, it can hardly be denied that there is a distinct advantage in studying the simpler situation first, particularly in setting up the basic framework of theory. Frank Knight was emphatic on this point. "The concept of a Crusoe economy seems to me almost indispensable," he said, "I do not see how we can talk sense about economics without considering the economic behavior of an isolated individual."[35]

One of the important advantages of studying simple forms as stepping stones to an understanding of their more complex successors is that many truths that are obscured by a mass of detail in the complex structure are self-evident in the simple situation. It is clear that unless some additional factor has been introduced during the process of development, the relations which are found to exist under the less complicated conditions will still continue to hold

good in the more highly developed organization, and this gives us a good working hypothesis concerning the operation of the complex mechanism. On subjecting this hypothesis to the usual scientific tests to determine its validity we will sometimes find that a new element actually has been introduced, altering the original relations. More often, however, these relations are just as valid as ever, but have been so confused and covered up by a profusion of collateral issues that they are difficult to recognize without the help of the clue obtained from a consideration of the simpler situation.

The creation of purchasing power is a good example. It is commonly taken for granted in present-day economic discussions that the production of goods and the creation of purchasing power with which to buy those goods are two separate and distinct things; indeed, some of the debate over national economic policies revolves around the question as to how best to go about providing the consumers with more purchasing power so that they can absorb the potential output of our factories. But when we turn to the primitive second stage economic organization where barter is the most advanced economic process, it is obvious that production of goods (including discovery, which is a form of production) is the only method of creating purchasing power.

When we analyze the status of purchasing power in the present-day economy we find that the basic situation is still the same as it was in the days of barter. There is still no other way of *creating* purchasing power. We may gain access to purchasing power *produced by others* through gift, theft, or borrowing, and some devices have been invented that provide purchasing power for certain individuals at the expense of others by what amounts to borrowing by governmental agencies or by the economic community – such devices as money inflation and revaluation of existing assets. These devices do not *create* anything; they merely redistribute what has been produced.

The limitation on creation of purchasing power is an important feature of economic life. In recognizing it we are already in direct conflict with contemporary economic thought. Paul Samuelson tells us categorically, "In social sciences, there is no law like that of the conservation of energy to prevent the creation of purchasing power."[36]

Earlier, Frank H. Knight said essentially the same thing: "There is nothing in economics corresponding to momentum or energy, or their conservation principles in mechanics."[37] But these authors are definitely wrong. There *is* an economic quantity – purchasing power – that corresponds to energy, and there *is* a law that prevents the creation of purchasing power in any other manner than by production. Many of the shortcomings of modern economics are due to the failure of the economists to recognize the existence of this limitation and to their persistent advocacy of measures and policies that are doomed from their inception because they are in conflict with this principle.

There are many physical quantities which, under ordinary circumstances, do not change in magnitude, even though they may undergo radical changes in form. Such quantities are said to be *conserved,* and the expressions of this conservation – the laws of conservation of mass, energy, momentum, electric charge, etc. – are some of the most valuable tools of scientific analysis. These laws are not absolute prohibitions. Mass may be transformed into energy, for instance. For general application they must therefore be stated in terms that provide for transformations under special circumstances. However, they are applicable under a wide enough range of conditions to make them very useful. They are all local manifestations of what we may call the Universal Conservation Law, a far-reaching physical principle that prohibits getting something out of nothing.

For some reason this universal law has never been recognized, or at least never generally accepted, in economics. Indeed, the extent to which economic theory and practice follow policies based on hopes and expectations of getting something for nothing is simply astounding. Time and again in the pages that follow it will be necessary to point out that the result which is anticipated by the proponents of a particular economic action, or by the adherents of a theory that purports to explain the consequences of such an action, is nothing more nor less than an expectation of getting something for nothing. Furthermore, it will be shown that some of the principal "defects" that present-day economists profess to see in the performance of the prevailing economic system are simply the automatic reactions of the mechanism to these "something for nothing" attempts.

Oddly enough, in view of the wide differences of opinion that divide the various schools of economic thought, this defiance, or disregard, of one of the most basic laws of the universe is one thing on which the great majority of economists are united. Some actually do profess to recognize the conservation law, and jocularly express it in the form, "There is no free lunch," but even the wildest of the ideas and proposals for getting something for nothing have the support of economists of the front rank, while many of those whose true character is somewhat more obscure are part and parcel of the orthodox economic doctrine of the present era. A very substantial proportion of the vast stream of books and articles offering prescriptions for our economic ills that is now pouring forth from our publishing outlets could very appropriately be titled "How to Get Something for Nothing."

This dream of something for nothing is one of the oldest and most persistent illusions of the human race. The physical fields have had their share of these fantasies. Perpetual motion machines were all the rage at one time, and even today there is no lack of schemes which purport to develop energy out of nothing. But where there is steady progress towards general agreement on basic principles, as there is in the physical sciences, the climate is unfavorable for ideas of this kind, and in our times they rarely get any support from professional scientists or engineers. As a scientific product, this present work must take a firm stand against all such proposals, and against all theoretical ideas that lend support to them, regardless of whether they emanate, as many of them do, from impractical visionaries who draw them out of thin air, or whether they come from some presumably legitimate source and are backed by economic authorities all the way from Adam Smith to J. M. Keynes.

Since purchasing power is something real that cannot be created out of nothing, it likewise cannot be dissolved back into nothing; that is, it is conserved. Like other conserved quantities it has a high degree of permanence. It cannot simply disappear: it must remain intact until it participates in a process whereby it is transformed into something else.

The scientist knows that energy, which is something, does not disappear in any ordinary physical process. The amount of energy coming out of such a process is exactly equal to that which entered.

But it is by no means self-evident that this result is inescapable, and the fact that energy is conserved was not discovered until after modern scientific techniques had been perfected and applied to the problem. In the less advanced field of economics the fact that certain economic quantities analogous to energy are also conserved has not heretofore been recognized. But application of the powerful methods of physical science in the investigation whose results are being reported herein has demonstrated that purchasing power is the kind of a persistent economic entity to which we can apply the techniques of factual science. Once purchasing power has been produced, we can follow it from process to process, just as the scientist does with energy, knowing that what was originally produced will remain intact until its existence is terminated by consumption or the equivalent. Thus the clarification of this point is the first in a series of moves which ultimately bring the economic mechanism out of the quagmire of assumption and speculation onto solid ground where we can subject it to exact logical and mathematical analysis.

It was emphasized in the course of the discussion in the preceding pages that application of factual scientific methods to the economic field would not simply rework the territory that has been covered by the economists, but would penetrate into new areas that the less effective methods of the "social sciences" have been unable to reach. The significance of this forecast can now be seen. The main line of development of theory from this point on will take the form of a study and analysis of the various aspects of that which the economists claim does not exist: a stable economic quantity-purchasing power-that is subject to a conservation law in essentially the same manner as energy in the physical field.

Before we can proceed further with our analysis, however, it will be necessary to give some consideration to the question of *measurement.* Some classes of goods can be measured physically, by counting, weighing, or some such process, but this does not give us an *economic* measurement. Since payment for goods must be made in other goods, the economic measurement of goods must also be made in terms of goods. We will call the quantity thus measured the *value* of the goods. The measurement standard may be either some one commodity or the weighted average of a number of goods.

Inasmuch as purchasing decisions are made by individuals, acting for themselves or on behalf of others, the economically significant assessments of the relative value of different goods are those that are made by these individuals. This means that value is subjective. It is value *to* a specific individual and *at* a specific time and place. It follows that values vary not only between individuals but also between different times and locations. Furthermore, goods have *two* values in each case: a value as purchasing power, which we will call *seller's value,* and a value as consumption goods, which we will call *buyer's value.*

From the very beginning of the systematic study of economics there has been a great deal of controversy over the question as to the meaning which should be assigned to the word "value," and some of the most important differences between the various schools of economic thought can be traced back to the divergent concepts of value. Knut Wicksell even contended that the concept of value is the *essence* of an economic doctrine. He asserted that "It is well known that almost every new school of thought in political economy has laid down its own theory of value and from this, as it were, derived its entire character."[38]

In fact, no definition has any more claim to validity than another. A definition is simply a description of the concept that is to be associated with the term defined, and as long as this association is rigidly maintained, the logic of the terminology is unassailable, regardless of any exception that may be taken on the grounds that the definition conflicts with prevailing usage, causes confusion, etc. Any relations that may be developed in the subsequent analysis are between concepts, not between words, and if the words clearly indicate the concepts to which they refer, they are performing their proper function. No definition can be wrong, as long as it is only a definition and nothing else. It may be ill-advised, even absurd if it is greatly out of step with accepted usage, but it cannot be wrong if it is self-consistent and consistently used.

Consistent use of a definition is, however, no easy task in a case where there is a preexisting popular meaning associated with the term defined. In spite of good intentions on the part of those who set

up other definitions, it is extremely difficult to avoid slipping into the use of both concepts in the same argument, thereby transferring relations that are valid for one concept over to another for which they may be totally invalid.

Precise definition of all quantities and concepts that are utilized is an essential feature of a sound scientific analysis. The non-scientist usually claims that he, too, defines his terms with as much precision as the subject matter will permit, but even within the non-scientific professional circles the lack of conceptual precision is recognized by careful observers. For instance, in a book entitled *Economic Thought and Language,* L. M. Fraser views the situation in economics in this light:

> Economists have always suffered, as compared with natural scientists, from the inaccuracy of their linguistic equipment. Many of the disagreements which divide them are terminological, rather than genuinely economic in character.39

The first essential for a scientific treatment of the factual aspects of economics – the kind of a scientific treatment that we are describing in this volume – is to *begin* by identifying the concepts that we are going to use. The economic relations with which we will be dealing are *relations between concepts.* The *names* that we apply to them are merely labels by which we identify the concepts. Starting with the term "value" and trying to attach a meaning to it is putting the cart before the horse. What we are doing is setting up and defining our concepts; then looking for appropriate names to apply to them. One of the concepts that we will use in our analysis happens to coincide almost exactly with the layman's idea of "value" as what the item in question is "worth," so for this reason, together with the points previously mentioned, we will utilize this term in referring to it. Since the alternate definitions will not be used herein, there is no actual necessity to give them any further consideration here. However, it may be helpful to explain just how the value concept defined and discussed in these pages differs from each of the two most widely accepted alternatives.

Karl Marx' theory, the basis of the so-called "Marxist" economic systems, defines the value of goods as equal to the amount of labor expended in their production. His special targets are the

"capitalists," who, in his opinion "exploit" the workers by means of their ownership of production facilities, and divert to themselves a substantial part of the proceeds that should accrue to the workers.

Here we have an illustration of the detrimental effects of mixing sociological concerns with economics. Capitalists are a *social* class, not an economic class. For efficient production it is necessary to have capital, and *suppliers of capital* are therefore essential to the economy. But, as noted earlier, these suppliers of capital, an economic class, are not necessarily capitalists. In some types of economic organization they are never capitalists, and it is not essential that they be capitalists in *any* economic system.

Since capitalists, as such, play no part in economic activity, the use of the terms "capitalist" or "capitalistic" in application to an economic organization, or to economic processes, is definitely out of order. A *social* organization may be capitalistic, in the sense that it provides for the existence of a class of individuals who obtain their income mainly from invested capital, but the existence of such a class is not dependent on any particular type of *economic* organization. Today even the most dedicated collectivist governments meet part of their capital requirements by selling bonds or by borrowing from foreign sources.

The inescapable fact is that the required capital must be obtained from *individuals,* either by borrowing from them, or by using governmental powers to take an additional slice out of their incomes. Obviously, borrowing is not possible unless the lenders are promised compensation. Thus Marx' contention that the entire product belongs to the worker is true from the economic standpoint only if the worker is the supplier of capital. His argument is therefore social rather than economic. It is really an argument in favor of a social and political organization in which it is possible to compel the workers to supply the capital needed for production, so that they can reap the benefits of ownership. Whether or not this is desirable is outside the scope of economic science. If it has any connection with economics, that connection is with the sociological branch of the subject. The worker ownership that Marx wanted to achieve is not incompatible with any type of economic organization.

However, from the standpoint of economic science it should be noted that the theory of value that Marx developed to support his social and political objectives is subject to the same logical defect that we have previously mentioned as applying to *all* of the economists' theories of value; that is, it changes definitions in the middle of the argument (without admitting this). In order to bolster his contention that the workers should receive the full value of the production in which they participate, he formulated a theory which characterizes the amount of labor applied to the production of economic goods as the *value* of those goods. But value, as thus defined is a concept that plays no significant part in economic life, so Marx changes horses in midstream. To complete his argument, he shifts to the definition of value as that which goods are "worth," thus arriving at the conclusion that what goods are worth is the amount of labor that has been expended in producing them.

Obviously, this is not true in the economic sense of "worth." The purpose of economic goods is to satisfy human wants of an economic nature. These are necessarily the wants of individuals. Economic "worth" is therefore the worth to individual consumers. This worth has no definite relation to the amount of labor that has been expended in their production. Much labor is expended, particularly in those economies that operate on Marxist principles, on the production of goods that are not wanted by the consumers. On the other hand, it is not uncommon for the results of some production operation, such as the drilling of an oil well, or the invention of a labor-saving device, to be worth vastly more than the labor expended.

Sooner or later, in every economic transaction or discussion, it becomes necessary to make use of the concept of economic value as we have defined it, that which anything is worth, in the sense of that which an individual is willing and able to pay for it at a specific place and time. This does not mean that the concept must necessarily be called "value." The economists are entitled to define their concepts as they see fit, and to call them by whatever names they consider appropriate. But we are justified in demanding that whatever definitions they formulate be adhered to throughout each of their arguments. This they cannot do if they define "value" in terms other than those used in the definition stated herein.

Everywhere in the economic field the concept of the "worth" of goods, the concept to which the layman applies the term "value," continually arises, and no matter how pure their intentions may be at the outset, the economists eventually lay their own definitions aside and start treating "value" as "worth." By this process of jumping across a wide conceptual gap and changing definitions in the middle of their arguments they arrive at totally unwarranted conclusions with respect to the special kind of "value" that they have set up. "The disentangling of the various concepts involved," says Fraser, "is a painful and difficult business."[40]

Value, as defined in the foregoing pages, is a difficult quantity to measure. It is not an inherent characteristic of the economic good, but a subjective quantity, an individual's estimate of the worth to him (or to the group on whose behalf he is acting) at a particular time and place. Bird's nest soup has a value to the Chinese but not to the American. Ice has a value in Palm Springs but not in Greenland. Today's newspaper has a value today but not next month, and so on.

The extreme amount of variability in "value" as thus defined makes it hard to work with, which probably accounts for the modern economists' practice of using another of the alternative definitions of value. The policy now prevailing is to equate "value" in general with "exchange value," which is merely another name for market price. By means of this expedient the layman's concept of "value" that is so difficult to handle is discarded, and replaced by a more tractable quantity. But the subjective concept of "worth" cannot be eliminated from economics. It plays a very important part in economic life, and the economists *must* use it. Consequently, they are doing just what Marx did; they are using the term "value" in *both* senses in the same arguments.

It would be quite understandable if the economist took the position that value, in the sense of "worth," being difficult to measure, has only a limited usefulness in economics, and cannot be made the basis of any exact quantitative relations. We are very familiar with physical entities which have this same status. Odors, for example, are extremely difficult to measure, and for this reason no mathematical science of odor comparable to those built around sound and light has

ever been developed. But we would never consider for a moment any thought that we might pick out some other quantity that would be easier to measure, call this "odor," and then substitute it for odor in the development of a theory. Even if measurement is impossible, the substitution of an irrelevant measurable quantity for a relevant immeasurable quantity is indefensible.

The real issue involved in the value controversy is whether or not the consumers should be allowed to make their own choices. The Marxists, and others who see the situation from the sociological viewpoint, take the stand that most consumers are not competent to judge what is "best" for them, and that the decisions should be made by individuals who are better qualified. Furthermore, it is the contention of the Marxists that there are aspects of the production decisions that are the concern of the state, rather than of the consumers, and that these decisions should therefore be made by government agencies. Whether or not these contentions have merit, they are social and political issues, not economic issues, and have no place in economic science.

Thus far we have been looking at value from a goods standpoint. We will now want to recognize that the value concept also applies to labor. The labor unions are vehement in their contention that "labor is not a commodity," but this is a sociological point of view, not an economic judgment. From the economic standpoint, labor is the equivalent of a commodity, inasmuch as it is bought and sold in the same manner as commodities in general. We may therefore define the value of labor in the same manner as the value of goods.

> **The *value of the labor* of a particular individual to a specific individual or agency at a particular time and place is the maximum amount which that individual or agency is willing and able to pay for it.**

This definition has to be modified in application to self-employed persons, but we can express essentially the same concept in self-employment terms as follows:

> **The *value of the labor* of a self-employed individual at a specific time and place is the value of the goods that can be produced by the most productive use of that labor.**

Like goods, labor has both a buyer's value and a seller's value. The buyer's value of labor is determined in the same manner as that of

goods, but the seller's value is subject to some other considerations. An important difference is that labor, as such, has no value to the worker other than that which he can realize from an immediate sale, whereas goods, as such, normally do have a continuing value to their current owner, at least for a time. If a proposed goods transaction fails to materialize, the owner holds the goods for some subsequent transaction with little or no loss in value. But if an expected labor transaction fails to develop, the potential labor, or a portion thereof, is lost, and whatever value it might have had simply disappears. Thus there is an element of urgency about the labor transaction that is usually absent in the case of the goods transactions, and this plays an important part in economic life.

To some extent the loss due to the failure to utilize potential labor may be offset by the *leisure* that is made available. Free time which can be devoted to consumption, rest, recreation, or any other purposes which the individual has in mind, is a means of satisfying wants, and from an economic standpoint is the equivalent of goods. Leisure thus possesses economic utility. There are no different varieties of leisure, as there are of goods, but the utility of leisure, and the corresponding value, are extremely variable nevertheless. Arbitrary restrictions placed upon the activities of individuals decrease this utility. To the prisoner in solitary confinement free time is merely idleness: leisure of zero value. Restrictions imposed by economic factors have the same effect to a lesser degree. The person who is able to take a vacation at the seashore or go on an ocean trip is usually securing more utility from his leisure than the individual who must spend his vacation at home. In general, the availability of additional income (goods) increases the utility of leisure, while additional leisure facilitates the consumption of goods.

However, in spite of the parallelism between goods and leisure so far as utility is concerned, there is a significant difference in origin that has a major effect on value. Goods are produced by means of effort, whereas leisure, like the ability to exert effort, is a part of man's original endowment. We cannot create more leisure in the way that we produce more goods. We have a certain amount of potential leisure to start with, representing all of our time except that required for the functional processes of living – eating, sleeping, etc. – but

we sacrifice part of it in order to produce goods. The remainder is the amount available for enjoyment. Since we cannot increase the original allotment of time, the only way by which leisure can be increased is to decrease the amount of time devoted to production. Because productivity is essentially fixed in the short run situation, this means reducing the *amount* of production.

This is one of the fundamental economic problems facing all individuals and economies: how shall we balance more leisure against more production? Unless all available time is required for production of the bare necessities of life, there must be a choice. One cannot spend all of his time on production and also enjoy it as leisure. It has to be one or the other. If the individual himself makes the choice it is normally based on his appraisal of relative values. If someone else makes the choice for him, it may be purely arbitrary, without regard for the value relationships. In any event, the choice is always there; leisure cannot be increased without forfeiting production. An individual may, of course, obtain both the leisure and the goods if he can shift the productive burden to someone else by one device or another, but this possibility is not open to the community as a whole. All individuals cannot simultaneously transfer this burden to others.

Here we have an illustration of the desirability of studying the simple forms of economic life before passing on to those of a more complicated character. The facts pointed out in the preceding paragraphs are self-evident so far as the isolated individual is concerned, and once we get this picture firmly in mind it takes but little additional consideration to make it apparent that the same principle holds good no matter how large the economic unit may become or how complicated its organization. Additional leisure-shorter working hours, more holidays, longer vacations, etc.-cannot be obtained without cost; it can only be gained by sacrificing the goods which could be enjoyed if this time were devoted to production.

The utility of additional increments of goods decreases as the income of an individual rises, and since utility is one of the determinants of potential value, the potential value of these additional goods likewise decreases. On the other hand, a rising

income usually *increases* the utility and the value of leisure, since it widens the range of pleasurable activities which the individual is in a position to undertake. In general, therefore, the value equilibrium shifts in the direction of more leisure as the income rises.

The value equilibrium between work and leisure is also affected by the nature of the work. Some tasks are difficult; others are easy. Some are so distasteful that they will be undertaken only under the pressure of extreme need; others are agreeable enough to induce carrying them out for their own sake, irrespective of any income that may result therefrom. When we wish to strike a balance with respect to any particular item of production it is necessary to take this situation into account.

The difference between one type of labor and another due to variations of this character may be considered either as an element of cost or an element of value, depending on the point of view. If we take one of the more agreeable tasks as our reference level, the more arduous or more disagreeable work involves an additional cost. If we move our reference level to the other extreme, the more pleasant work represents the addition of a certain amount of value over and above the value of the goods produced. Both methods of treatment are correct and they arrive at equivalent results. The difference between them is merely a matter of where we put the zero point. In this work we will, for convenience, take our zero at the level where the nature of the work has no effect on the values. Any additional effort or other element which makes the work more distasteful we will call a cost. Any satisfactions arising out of the labor, other than its productivity, we will call values. This need to assign an arbitrary position to the zero level is one of the factors which makes it desirable to define cost and value in commensurable terms. By so doing we arrive at the same answers irrespective of the location of the zero.

Where wants are few, the preference for additional leisure manifests itself quickly. Some of the early economists were puzzled by what appeared to be a failure of the usual laws of supply and demand in application to primitive economies. Simon Newcomb, for example, cites the case of an importer who was obtaining certain handicraft items from a South American Indian tribe. Finding a ready sale

for the goods, the importer decided to pay a higher price so that he would stimulate production in accordance with the rule that an increase in the price increases the supply. Much to his dismay he found that the higher price actually resulted in reduced production, as the Indians simply quit working after earning enough for their most urgent needs, and at the higher price that point was reached earlier. "Here, then," says Newcomb, "was a case in which a law of economics was completely reversed."[41]

The advance of economic theory has cleared up this situation and it is now recognized that the early-day economists were in error in regarding it as a supply and demand problem. Instead it was a value problem, a question as to the comparative values of additional goods and additional leisure. These particular Indians had never cultivated any strong desire for additional goods, and they chose the leisure. The present-day labor unions who press for a shorter work week and longer vacations are making the same choice, although in this case the economic organization is so complex, and the factors involved are so imperfectly understood, that few of those who demand the additional leisure realize that either they, or some other workers, must pay for that leisure by forfeiting goods that they would otherwise receive.

An equally prevalent misapprehension is that work itself (or employment, which is the aspect of work that is the center of attention in the modern economy) has some inherent economic merit independent of the goods that are produced. Crusoe would never be deceived by any such specious doctrine. In his simple life, where economic relationships are clear and unequivocal, it is obvious that work which does not produce any economic values simply sacrifices leisure to no purpose. But as economic organizations have grown in complexity this direct connection between gain in leisure and loss in production has been covered up by a confusion of detail, and we find that in the modern world much effort is devoted to work which cannot possibly produce sufficient values to justify the accompanying sacrifice of leisure. Even worse, so much confusion has been introduced into the picture that there is actually an influential school of economic thought which contends that employment in itself creates economic gains even though no values at all are produced.

Under some circumstances *non-economic* benefits may perhaps be derived from work that produces no economic values, particularly if the alternative to employment is idleness rather than active leisure, but the contention of Keynes, Beveridge, Myrdal, *et al.,* is that unproductive employment is *economically* beneficial, and it is this contention that must be categorically repudiated. All labor comes from individuals, whether or not they work in conjunction with others, and these individuals sacrifice leisure when they devote their time to work. If the sum total of the values placed on the potential leisure by these individuals is greater than the values produced, the employment has decreased economic well-being rather than increasing it. If no values at all are produced, the entire value of the potential leisure has been lost. No shifting of goods between individuals can alter these facts. As long as a loss in values is incurred by the unproductive employment, *someone* has to bear it. If arrangements are made whereby those engaged on the sub-standard work are compensated in money or goods for their labor, the loss is merely transferred to others.

## CHAPTER 5

# Concepts and Definitions

While we will be dealing largely with aspects of the subject matter generally included in economics that are different from those covered in the literature of the economic profession, the subject matter itself is the same. It will therefore be convenient to use the names and definitions that the economists apply to the various economic concepts, insofar as we will utilize these concepts without significant changes. The term "goods" has already been introduced. It is defined as follows:

> ***Goods*** **are those things that satisfy economic wants, directly, or indirectly through participation in the production of other goods.**

The economists' definition of goods, which has been adopted for the purposes of this analysis, is considerably broader than the ordinary usage which makes "goods" synonymous with "commodities." Under this definition intangibles such as services are also goods, as is anything else, whatever its nature, that satisfies some kind of an economic want. The limiting adjective "economic" is a somewhat unconventional addition to the definition of "goods," but this work will lay considerable stress on the point that items which cannot be bought and sold are outside the sphere of economics.

The word "goods" carries no implication of social desirability when used in its economic sense. It is rather unfortunate that the economic profession has adopted this particular term in preference to some one of the other words that would have been equally available, as the use of this terminology leaves the door open to confusion between the moral and sociological conception of good as socially desirable and the economic conception of a good as something that satisfies a want. It should be emphasized that from the economic standpoint all economic wants are alike. The opiates of the drug addict are goods to

economics equally with the family bread and butter. The bombs and shells that destroy life and property are economic goods, even though their purpose is to do harm.

This does not mean that economic science approves of these things that are condemned by the ethicist. It neither approves or disapproves of anything, any more than physical science would contend that the diamond is too hard or that water boils at too low a temperature.

> ***Utilities* are those characteristics of goods which enable them to satisfy human wants, directly, or indirectly by participating in the production of other goods.**

This concept of utility, or economic usefulness, as here defined, is an objective property; that is, one which has an actual existence independent of an individual's mental processes. It exists whether he realizes it or not. Subjective concepts, those that exist only in the mind of the individual, are usually influenced by the objective – if they are independent of objective influence we usually suspect that there is something wrong with the mind – but they are not necessarily controlled by the objective.

Utility, as here defined, is not influenced by subjective opinion, except in certain special cases such as the administration of medicine, where the efficacy of the treatment depends to some extent on the patient's mental attitude. The tomato had a utility as a food even in the days when it was considered poisonous. Anthracite coal had utility before anyone ever discovered that it would burn. Furthermore, goods often satisfy physical needs of which the individual is ignorant. It is only within comparatively recent years that the utility of certain foods in furnishing the vitamins necessary for health has been recognized. Citrus fruits and other natural sources of Vitamin C were performing their useful function of preventing scurvy and satisfying the want for health for thousands of years before their true utility was discovered.

The inherent utility of any good is, however, only a potential utility. In order to determine its actual utility we need to take into account not only the potential utility but also the relation of this potential utility to the wants of individuals. Bananas ripening in Costa Rica have potential utility to the inhabitants of Alaska, but no actual utility as long as they remain in Costa Rica. Ice has a potential utility for cooling purposes, but an inch thick coating on the river in midwinter

has no actual utility of this kind. In general, the actual utility of an economic good depends not only on its inherent characteristics but also on the time and place at which it is available, and a very large part of man's economic effort is expended in converting potential utility to actual utility by getting goods to the right place at the right time.

For convenience, it has become customary to speak of the inherent utility of goods at their original point of production as form utility, and to consider that additional time and place utilities are added as the goods are transported or stored. This is a useful concept, and the same practice will be followed in this work, but it should be realized that this is a purely artificial division for analytical purposes, and does not mean that a certain portion of the total utility is due to time, another to form, and so on. What we call the creation of place utility is in reality the transformation of already existing potential utility into actual utility by moving goods from one location to another where they are better able to satisfy wants. Many goods are produced at the time and place of use, and in such cases the actual utility cannot be broken down into form, time, and place components. But the same goods may be produced in an appropriate place and transported to the location where they are to be used, then kept in storage until they are needed. In this case the actual utility is the same as in the first example, but for analytical purposes we say that time and place utility have been created in the processes of transportation and storage, and only the remainder of the utility can be characterized as the form utility produced in the original act of production. Time, place, and form utility are not different kinds of utility; they represent the same kind of final utility converted from the potential to the actual state by different processes.

***Production* is the creation of utilities.**

This is another extremely broad definition. In ordinary usage the term "production" is restricted to primary processes such as manufacture or agriculture, but from the standpoint of economic life in general there is no difference between such activities and any other exertion of effort toward the satisfaction of wants. A gradual widening of the concept of production has been a notable feature of the history of economic thought. The first tendency was to consider only the activities directly connected with the creation of form utility as productive, and from

the viewpoint of Karl Marx and other early economists a large part of the population was engaged on non-productive work. Obviously, this put the theorists in a rather awkward dilemma. Most of these presumably non-productive operations were admittedly necessary, so the economist could neither advocate their abolition nor justify their existence. The development of the concepts of time and place utility was a big step toward resolving this difficulty, and it is now recognized that the railroad which transports the goods and the merchant who keeps them in stock until they are needed are producers in just as true a sense as the manufacturer who fabricates than originally.

The concept of services as goods has also been a gradual development. Many modern economists are still having difficulty with certain features of present-day economic life, particularly the activities connected with advertising and selling. Here, again, a broader understanding of the underlying situation is necessary in order to enable visualizing these activities in their true light.

The fact that income accrues to an individual from his activities does not necessarily indicate that there has been production. Theft, for example, involves effort, and it yields income to the thief, but this is not production. It does not create any utilities; it merely diverts them from one owner to another. Production, as herein defined, is measured in terms of the values created, not the amount of effort expended, or the individual income generated.

> ***Consumption* is the utilization of utilities for the satisfaction of wants, or for operations incidental thereto.**

Consumption is the reciprocal of production. Production creates; consumption destroys. In production effort is expended. In consumption the results of effort are enjoyed. The definition as given excludes those uses of goods which involve transformation rather than destruction of the utilities. This point will be elaborated later.

Utilities are often destroyed by agencies other than consumption during use. A warehouse may be destroyed by fire, or an earthquake may raze a whole city. Conversely, utilities may occasionally be created by purely fortuitous circumstances. So far as the operation of the economy is concerned, this unintentional creation and destruction of utilities has the same effect as if it were intentional, and since these

incidental gains or losses are, at least to some degree, an unavoidable accompaniment of economic life, they will be treated for purposes of this analysis as an incidental part of the primary process. The definition of consumption has been phrased accordingly. If insects get into the flour in the consumer's bin, so that it has to be discarded, the effect on the economic mechanism is exactly the same as if the flour had been consumed, and we will therefore treat this as consumption. If the insects made their inroads earlier, in the wheat before milling, or in the flour before it reached the consumer, the spoilage is simply another of the costs of production, and it will be so treated herein.

***Labor* is human effort devoted to production.**

Here, again, it will be convenient to use the broad definition of the economist rather than the narrow popular usage which equates labor with manual work. Under this inclusive definition the efforts of managers, professional people, artists, entertainers, government officials, and all others who work in any productive activity constitute labor. From the standpoint of economic science one type of productive effort is the same as another. The familiar distinction between "blue collar" and "white collar" work is social and political, not economic.

***Wages* are the compensation received for labor.**

In following the development of thought in the subsequent pages it will be essential to keep in mind that this definition of wages is coextensive with the definition of labor given in the preceding paragraph. All payments for productive effort are alike from the overall economic standpoint, and introducing distinctions based on social or technological criteria simply confuses the economic picture. There are significant differences in the basis of payment, to be sure, but in this work we will view the level of wages in terms of wage cost per unit of product, and on this basis it is immaterial whether the payments are made at hourly rates, as salaries, as fixed fees, as "fringe benefits," or in any other manner.

***Productivity,* or productive efficiency, is the relation of the amount of values produced to the amount of labor, or its equivalent, that is expended.**

To initiate an economic transaction the producer or owner of goods offers to sell them at what we may call a seller's price, which he sets

at or above the value to him as a seller. (This is the "asking price" of the organized exchanges.) An individual, or agent of a group of individuals, who is interested in the goods, either for consumption or for resale, then makes a counter offer, a buyer's price, at or below the value to him as a buyer. (This is the "bid" price of the organized exchanges.) A process of bargaining then follows, terminating with an agreement on a sale price or, in the event of an impasse, without a sale. In some of the modern economies many of the seller's prices, particularly in the retail stores, are fixed and not subject to bargaining, but in this case if the fixed price is above the buyer's value the goods are not sold. The seller is then compelled to reduce his price to some lower level at which the consumers are willing to buy. This accomplishes the same result as bargaining, in a different manner. In the subsequent pages the term price, when used without qualification, will refer to sale price.

On the foregoing basis we have these definitions:

> ***Price*** **is a value placed on goods for purposes of economic transactions.**
>
> ***Seller's value*** **is the minimum price that the owner of goods is willing to accept for them at a specific time and place.**
>
> ***Buyer's value*** **is the maximum price that an individual or agent is willing to pay for goods at a specific time and place.**
>
> **The *cost* of goods is the price paid to obtain them, or if self-produced the values expended in production.**

This brings us to the question, What determines value? On first consideration it might seem that utility is the primary criterion. Since the aim of all economic activity is satisfaction of wants, and utility (as herein defined) is that property of goods by which they are able to supply such satisfactions, it can hardly be denied that measurement of utility also measures the total results obtained from economic activity. But for present purposes we are not interested in the sum total of the material satisfactions that are realized; what we want to know is the size of that portion of the total that takes part in economic life, the portion of the utilities that, in the modern economies, can be bought and sold in the markets.

Although inherently subjective, value, as we have defined it, has a definite relation to utility, an objective property (as defined). In order

that there may be value, the individual concerned must believe that there is utility to him, either directly or because of the possibility of exchange for other goods that he can utilize. It is not necessary that any actual utility exist, nor does the existence of utility automatically result in the existence of value. The essential requirement is a *belief* in the existence of utility. Many ineffective medicines have value because there are those who think that they are being helped by these concoctions, and are therefore willing to buy them. On the other hand, anthracite coal had no value until someone discovered that it would burn.

The perceived utility of economic goods is a factor in determining their value because it affects the individual's *willingness* to make the expenditure that is necessary in order to obtain them. An equally important factor is his *ability* to pay the price. In Crusoe's situation, the limiting factor is physical: his capacity for productive labor. If he finds it impossible to work more than an average of ten hours per day, then his average consumption of goods cannot exceed the equivalent of ten hours labor. When we examine some particular item such as the maintenance of comfortable temperatures in his house, we can see that both ability and willingness enter into the determination of the value of firewood. Part of Crusoe's time must be spent in obtaining the necessities of life, and these items must be given precedence over the comforts. If half of his total labor is required for such purposes, the factor of ability limits him to five hours per day for obtaining firewood. But Crusoe is not willing to spend all of this time to obtain warmth, to the exclusion of all other non-essential objectives, and we will find that he sets a lower figure, perhaps something on the order of eight hours per week, as a maximum. If it requires more time than this to maintain a supply of firewood, he will accept the discomfort of a cold house, and apply his labor elsewhere.

We thus find that whereas cost may vary almost without bound, value has an upper limit. If the cost of production is above this limiting value, which we will call the *potential value* to emphasize the analogy with potential utility, these particular goods are not produced or bought. The difference between this concept of potential value and the value concept that the economists call "value in use" is in this limit imposed by a finite ability to pay. Like cost, "value in

use" has no upper limit; it is this concept of value to which Joseph Schumpeter refers when he says that "total value will very often be infinitely large."[42] But this "value" has no economic significance, and bringing it into an economic discussion merely confuses the issues. Willingness to buy means nothing without ability to buy.

It should be noted that this limitation imposed by inability to pay any higher price is always effective, even in the case of the absolute necessities of life. The potential value of these necessities – food, for example – is relatively high, but it is still finite, not infinite as Schumpeter claims, because no matter how *willing* an individual may be to pay whatever price is necessary to sustain life, there is always a point at which he is no longer *able* to pay more. This is the potential value, and if the cost of food exceeds this level (by definition, a value *to* a particular individual and *at* a particular time) this individual and those dependent on him must starve, unless others come to their assistance, even though there is food somewhere which he could obtain if he were able to place a greater economic value upon it; that is, pay a higher price. We may deplore this situation, but it exists, and it is the function of economic science to analyze things as they are, not as we would like them to be, or as we think that they ought to be.

The potential value is the maximum amount which an individual is willing and able to spend to obtain a particular economic product, *if necessary.* But ordinarily this great an expenditure is not required, and the *actual value,* the amount which he is willing to spend *under the existing circumstances*, is determined by those factors which make the maximum expenditure unnecessary. The first of these factors is the price at which similar goods are available. A certain article may have a potential value of ten dollars to the prospective purchaser, but if an equivalent article can be bought for one dollar elsewhere in the same general market, then the actual value of the article in question cannot exceed one dollar.

A second determinant of actual value is substitutability. On first consideration it may seem absurd to say that the value of oats is determined largely by the cost of wheat. One naturally expects value to be a characteristic of the commodity itself, on the order of density, viscosity, or some such physical property. Potential utility, as we

have defined it, is such a property, an inherent characteristic of the goods, but value, potential or actual, is not. Except in the limiting situation where no acceptable substitute is available, value, in the sense in which the term is used in this work, is dependent to a very large degree on the cost of possible substitutes.

Summarizing the foregoing, we find that potential value is determined by (a) utility, and (b) ability to buy (or produce). Actual value is determined by (a) seller's offers (or minimum production costs), (b) availability and cost of substitutes, and (c) potential value (as a limiting factor). In an exchange economy the cost of production does not enter into the determination of values directly, but it does so indirectly through the seller's offers; that is, sellers will not *continue* to offer products at less than the cost of production.

Whenever a deliberate economic choice is made, the decision as to what goods to buy or produce depends on the ratio of potential value to cost, how much value we get for our money, as the layman puts it. The most essential wants are satisfied first because the value-cost ratio is highest here; indeed nothing else has *any* value until after the necessities of life are provided for. This fact that less essential items may have little value, or perhaps no value at all, in spite of having considerable utility is one of the peculiarities of the value situation that is much easier to understand when we look at it in the context of the simple economy. Let us consider the case of an isolated person whose entire time is required for the production of the bare essentials of life, either because his environment is unfavorable, or because he is personally inefficient. To this individual, nothing outside of these essentials has any value, as herein defined, since however *willing* he may be to produce them, he is not *able* to do so. Luxuries would still have utility, of course, and if there were any way of getting them without effort, he would be glad to have them, but he cannot devote any time to producing them, or to producing anything else that he can exchange for them, for if he does this he ceases to exist.

Now let us turn our attention to another individual whose productivity is fifty percent greater. In this case only two thirds of the total available labor time is required for producing the bare essentials, and the balance can be applied to improving the scale of living. Here

comforts and conveniences begin to have a value. A third individual whose productivity is one hundred percent greater than the first would be able to assign a still greater value to these luxuries; that is, he would be not only willing, but also *able* to devote more of his labor to their production or acquisition. In general, we may say that the greater the productivity the higher the value that can be placed on non-necessities.

This is one of the places where scientific conclusions are distressing to some persons. Many economists and laymen wax highly indignant over the ability of persons with larger incomes to enjoy the good things of life that are denied to those not so fortunately situated, and they object to any kind of a terminology which might imply some justification for this state of affairs. They tell us that the wants of the poor are equally as strong as those of the rich, and that consequently, values are the same to all. But this is merely confusing value with utility. The utility of some goods may be the same to all, but in order to analyze economic processes we must have a concept that takes into account *ability* to pay the cost as well as *desire* to enjoy the goods. This does not imply either approval or disapproval of the existing situation which requires the use of such a concept; it is simply a recognition of the facts. The value which most of us are able to place upon a yacht or an original Rembrandt has no economic significance, and nothing is gained by pretending that it does.

In this connection, it is interesting to note that the distinction between utility and value is recognized even by animals of presumably low intelligence, notwithstanding the fact that some of our savants manage to get them gloriously tangled up when they attempt to harmonize them with their own emotional judgments. The hungry cat will catch mice if there is no other source of food available, but he will not put forth the effort if a tender-hearted mistress is susceptible to some artful begging. The utility of mice as food is just as great in one case as in the other, but in feline economic life, as well as in human economic life, cost is compared with value, not with utility, and in accordance with the principles that have been set forth in the preceding discussion, the value of mice as food is decreased by the availability of acceptable substitutes at a lower cost.

As already noted, one of the principal determinants of buyer's value is the price at which the same goods can be obtained elsewhere in

the same general market. Under some circumstances, sellers may offer limited quantities of particular items at abnormally low prices, especially if these goods are perishable. But they cannot continue to sell at a price below the cost of production. Under normal conditions the minimum price of any particular kind of goods is therefore the lowest cost at which any producer can produce them and transport them to the market area.

It follows that the amount of these goods available for sale at this price in this market, the *supply,* is limited to the optimum output of this one producer. If a somewhat higher price could be obtained, additional producers would be able to enter the market, and the original supplier might also be able to increase his output. It follows that the supply at this higher price would be greater. A still higher price would still further increase the supply. Thus the supply of a particular kind of goods in a market is not a specific quantity, but a series of quantities, a schedule, as it is usually called, corresponding to a similar series of prices.

> **The *supply* of an economic good in a specific market at a specific time is a schedule indicating the amount of that good which will be offered for sale at different prices.**

As indicated in Chapter 4, the buyer's value placed on goods by individuals must be above the seller's price to enable a transaction to take place. At the minimum price (the seller's value), the number of consumers whose value estimate is above this price is usually relatively large. The quantity that the consumers would buy at this price, the demand for these goods, is therefore also relatively large. At a higher price, some of the consumers find that the price now exceeds the value that they have placed on the goods as buyers. Consequently they do not buy them. A still higher price takes additional consumers out of the market. Thus the demand generally decreases as the price rises.

> **The *demand* for an economic good in a specific market at a specific time is a schedule indicating the amount of that good which will be bought at different prices.**

In each case there is only one price at which supply and demand are equal. This is the only price that will "clear the market," and it is therefore the price at which the transactions take place. Changes

in either supply or demand result in corresponding changes in the market price.

The supply and demand relationships have been extensively investigated by the economists and are well covered in the economic literature. There is, however, a strong tendency to apply supply and demand reasoning to issues that are outside its range of applicability. "It is not too much to say," contends one enthusiast, "that almost everything we know about the behavior of the economic system can be illuminated by way of reference to the fundamental cross of demand and supply."[43]

But this *is* too much to say – far too much. The truth is that supply and demand theory does *not* illuminate all areas in economics. On the contrary, it has contributed greatly to the confusion that now exists in several important economic areas, particularly such subjects as the origin and magnitude of the total demand for goods, and the true significance of the money supply. The reasons for the inapplicability of the supply and demand principles to these issues will be discussed in connection with the examination of the individual issues in the subsequent pages.

## CHAPTER 6

# The Money Economy

The third stage of economic development is reached when a *medium of exchange* is introduced. This is a far-reaching modification of the economic organization, and greatly increases the complexity of the economic process. Instead of one market transaction, exchange of goods (purchasing power) for goods (articles of consumption), we now have two separate transactions, exchange of goods (purchasing power) for money and exchange of money for goods (articles of consumption). It is clear, however, that the double transaction does not arrive at any different result; it merely reaches the same result by a more circuitous route.

This is typical of economic evolution in general. The fundamental objectives remain the same, but the process by which they are reached becomes more complex. As long as each person consumes that which he produces, economics is still in the amoeboid stage. But when specialization enters the scene it becomes necessary to introduce a process of exchange whereby the various kinds of goods desired for consumption can be obtained in return for the specialized goods that are produced. The simplest way of accomplishing this result is a direct exchange, but this process of barter is awkward and inconvenient, so for greater efficiency a system has been devised whereby the exchange is handled in two steps through the medium of money. When the two steps are complete, however, the final result is exactly the same as if the transactions had been carried out by means of barter. The goods have been exchanged, and nothing else of a significant nature has transpired. The money has not been altered in amount, and it is right back where it started from.

A useful analogy drawn from the physical world is the cooling of a gasoline engine. In this case the objective we wish to accomplish is to transfer heat from the engine cylinders to the surrounding air. We

can do this in one step (analogous to barter) by direct contact, as in many aircraft engines and in some automobiles, but most automotive designers have found it convenient to use a transfer medium (analogous to money), which is usually water. The heat is first passed from the cylinders to the cooling water and then from the water to the air. The final result of this two-step process is exactly the same as when the cooling is accomplished by direct contact of air with the engine cylinders. The circulating medium has not been altered in any way, either in amount of in composition. Its only function has been to contribute to the efficiency and convenience of the primary process.

In both the engine cooling and the goods transaction a single operation has been carried out in *two steps.* The objective is not reached until *both* steps have been taken. Transfer of the engine heat to the cooling water is only half of the operation, and it accomplishes nothing by itself, as a motorist soon discovers if his radiator plugs up. The cooling system does not serve its purpose unless the second step is taken and the heat is transferred from the cooling water to the air. Similarly, exchange of goods for money is an incomplete transaction, only half of the total operation. The seller is not willing to stop here. He attaches no value to money *per se;* it has a value to him only as purchasing power by means of which he can buy goods. As in the case of the engine cooling, the transaction is not complete until the money proceeds of the original sale have been exchanged for other goods. The net effect of the transaction as a whole is therefore the same as that of direct barter. Goods (purchasing power) have been exchanged for goods (articles of consumption).

The general conclusions reached in this work by application of scientific methods and procedures are summed up in the form of a series of basic principles governing those aspects of production, exchange and consumption that are pertinent to the objectives of this work. These principles are the economic equivalent, in the area that they cover, of the laws of the physical sciences. They are independent of the particular forms of business and governmental institutions in vogue at the moment. They are as applicable to simple barter as to the most highly developed money and credit economy. They hold good under socialism, communism, fascism, or any other "ism" just as they do under the American individual enterprise system. The

situations appropriate to some of these principles do not arise under the more primitive forms of economic organization, but whenever and wherever they do arise, these principles govern. It is not contended that the principles are usually valid or approximately correct, but that they are always valid and mathematically exact. The principles are simple, they are expressed in plain and unequivocal language, and their validity can easily be verified.

Furthermore, none of these principles is dependent in any way on the nature of human behavior. This assertion may be hard to accept after the way in which it has been drilled into us for decades that economics is a study of man's actions and hence is essentially different in character from the physical sciences. But the truth is that applied science is also concerned primarily with human actions. Certainly the building of a bridge is the work of human beings. So is the design of an airplane, the synthesis of a new drug, the drilling of an oil well, or any other of the thousands of engineering and scientific tasks that might be mentioned. Science, pure and applied, deals with human actions, but not with the human aspect of those actions. The function of the physical sciences is to tell us what consequences will follow if specific actions are taken, or alternatively, what actions are necessary in order to achieve certain specific results. Economic science can do exactly the same thing. It cannot make our economic decisions for us any more than structural theory can decide whether we should build a new post office, or organic chemistry can decide whether we should make synthetic rubber. But it can tell us specifically and accurately, just as the physical sciences do in their respective spheres, what consequences will follow if we take certain actions, and it will thus enable us to adapt our economic actions to the results that we want to achieve.

The first of these principles that will be stated is the basic principle discussed in Chapter 3 that defines production as the only source of purchasing power.

> **PRINCIPLE I: Purchasing power is created solely by the production of transferable utilities, and it is not extinguished until those utilities are destroyed by consumption or otherwise.**

The reason for specifying that the utilities must be transferable should be clear. Goods that have utility only to the producer or to their present owner have no status as purchasing power, regardless of the

magnitude of that utility. A second hand watch possesses transferable utility and constitutes purchasing power, while a used dental plate does not, even though the latter may rank considerably higher in the esteem of the present owner.

In the barter stage of economic organization where goods are exchanged directly for other goods it is apparent that only goods can pay for goods. Now we see that the money economy does exactly the same thing, merely doing it indirectly rather than directly. Thus the same principle applies.

**Principle II: Only goods can pay for goods.**

In earlier times, when this principle was emphasized in the economics textbooks, it was customary to add the qualification "in the long run." Recognition of the incomplete status of the first step, the exchange of goods for money, makes this qualification unnecessary. Money is actually no more than a claim against the goods that have been produced, a claim that must ultimately be redeemed in goods of equal value. Of course, where money has an intrinsic value as goods, as in the case of the rare metals, that portion of the face value of the money that represents a value as goods is a partial payment.

Principles I and II are closely related. Since only goods can supply the ultimate purchasing power necessary to complete the two-step economic transaction, only the production of goods can *create* purchasing power. Whatever money purchasing power is obtained by any other means is only an additional claim against the same goods. It does not add to the total real purchasing power; it merely dilutes the value of the previously existing claims.

But even though the medium of exchange has no effect on the overall accomplishment of economic activity, it does play a very important part in the operation of the economic mechanism, and we will now want to give it some further consideration. The characteristics of money and money substitutes will be discussed at length later. The test of money is acceptance. If a commodity is accepted as a medium of exchange – that is, accepted not for its own utility, but as something that can be exchanged for other goods – then it is money; if not, it is not money. When we go a step farther and ask *why* certain commodities such as gold and silver are accepted as money whereas most goods

are not, we find that there are a number of requirements which a commodity must meet in order to be entirely suitable for use as a medium of exchange. The essential point is that variations in value must be minimized. This, in turn, means that the time and place utilities must be approximately constant. A circulating medium consisting of commodities of this nature, or credit instruments that have a similar acceptance as money, thus provides a means by which the full value of goods, including that of their highly perishable time and place utilities, can be transformed into a relatively permanent kind of value that can be used at the time and place most convenient for the possessor.

The only kinds of money accepted as such in the United States at present are the coins and currency issued by government agencies. The "money supply," as defined by the economists, includes a number of other items, but unlike money, these items are not claims against *goods*, they are claims against certain specific quantities of *money,* and they have value only to the extent that such quantities of money actually exist, and are available. Bank deposits, for instance, the largest item in the so-called "money supply," are claims against whatever money the bank may possess, the *bank reserves,* but these are much smaller than the total of the deposits. If the depositors write checks for a larger amount, the bank must arrange to obtain additional money from the Federal Reserve or some other outside source.

Gold and silver were once widely accepted as money, and gold still has this status to some extent. In the United States, however, the monetary metals must be sold, like other goods, to obtain money, and they do not add to the total money in use. The same is true of the various credit instruments classified as "near money."

From the foregoing it can be seen that only the authorized government agencies can actually *create* money. It follows that the money in the economic system is *conserved,* and does not vary in total quantity except to the extent that it is created or retired by these agencies. (A small amount of destruction by fire, etc., occurs, but for analytical purposes we can consider the destructive forces as the equivalent of "authorized government agencies.")

The difference between this view of the money situation and that found in the current literature of the economic profession is that

present-day economic thinking does not distinguish clearly between that which has actual value and that which is merely a claim against values. Money is a claim against the goods that are produced. A quantity of the "bank money" or "near money" that the economists are including in their definition of the "money supply," is only a claim against a claim. It does not add to the total of the claims against production, as a corresponding increase in the amount of money would do. Thus it has a much different effect on the streams of economic activity, as we will see later.

Because of the approximate constancy of value of the medium of exchange its introduction has done more than provide a common denominator to facilitate the exchange transaction. *It has enabled storage of claims against goods independent of goods storage.* This is a very significant point, but its major implications have been almost entirely overlooked by previous investigators because they have failed to appreciate the fundamental difference between drawing purchasing power from storage and creating it by production of goods. We will call the facilities for storage of money or goods reservoirs.

In the modern economies there are several different kinds of money reservoirs, but they all accomplish exactly the same result, a point that we will find very significant when we begin consideration of the methods that can be used for control of the reservoir transactions. The money storage may be done directly in a *money reservoir,* a bank, a pocketbook, or an old tin can, or government agencies may issue or retire money, or a nation's currency may be acquired by foreign countries, which are then acting as reservoirs, so far as the domestic economy is concerned, or gold may be mined and used for money (not in the U. S. today). The activity in and out of these reservoirs is easily monitored, and the information required for control over the reservoir transactions is therefore readily available, if and when a decision is made to institute some kind of control.

Increases in the market prices of existing goods (particularly stocks, shares in the ownership of business enterprises) are often looked upon as sources of purchasing power. But these increases do not provide money purchasing power unless the goods are sold, and when the sale takes place it absorbs as much purchasing power from the buyer as it

provides to the seller. Thus a transaction of this kind does not provide any more total purchasing power; it merely transfers purchasing power from one individual or group to another.

With the benefit of a realization that there are reservoirs in the circulating stream of money purchasing power that have a profound effect on the flow from production to the markets, it is now possible to return to the creation of purchasing power and to clear up another issue: the *quantity* that is created. Here, again, the facts are clear and unmistakable. Production of goods and creation of purchasing power are one and the same thing. That which we produce is purchasing power to us but goods (articles of consumption) to others. That which others produce is purchasing power to them but goods (articles of consumption) to us.

> **PRINCIPLE III: Purchasing power and goods are simply two aspects of the same thing, and they are produced at the same time, by the same act, and in the same quantity.**

Production in excess of purchasing power is mathematically impossible, nothing can exceed itself. It is immaterial whether the relative values of goods rise or fall; if the purchasing power of certain goods decreases because of a drop in relative value, the purchasing power required to buy those goods decreases by exactly the same amount.

This principle is not new. It was first stated by J. B. Say, one of the early French economists, and it is known as Say's Law of Markets. To the economic profession it has been one of the great enigmas of their branch of knowledge. On the one hand, the "law" is so simple and logical that its validity is almost self-evident, but on the other hand, Say's deduction from it, the seemingly obvious conclusion that the purchasing power available in the markets will always be sufficient to buy the full volume of production at the prevailing prices, is so completely at variance with actual market behavior that the law cannot command general acceptance either. The result is confusion.

An understanding of the role of the purchasing power reservoirs clears up the contradiction. We can now see that Say and his successors misjudged his finding. It is not a Law of Markets; it is a Law of Production. As such it stands solid and unshakable. Purchasing power is created in exactly the right quantity to buy the full volume

of goods produced at the full production price. The availability of money purchasing power in the markets is an entirely different matter because of the presence of money reservoirs in the circulating stream.

The three fundamental principles that have been stated thus far make it clear that there is only one way in which the basic economic objective of increasing real purchasing power – ability to buy goods – can be attained. That is by *increasing the production of goods,* just as the only way by which we can increase the amount of heat transferred from the radiator of the automobile to the air (if we can think of any reason why we should want to do this) is *by generating more heat in the cylinders.* Real purchasing power (transfer of heat) cannot be increased by raising money wage rates (higher rates of water flow) or by cutting prices (lower rates of water flow) or by increasing the money supply (putting more water into the cooling system) or by shifting purchasing power from one group to another (stirring the cooling water) or by subsidizing some consumer group (which is just another way of accomplishing a transfer from one group to another) or by any of the other "something for nothing" schemes that are so plentiful in economics.

Further consideration will be given to each of these all too prevalent economic fallacies at appropriate points in the subsequent pages, but most of the obstacles that stand in the way of getting a clear view of the economic process can be avoided simply by keeping in mind that the whole object of any economic system – *the sole reason for its existence* – whether it is the simple barter economy of a savage tribe or the enormously complex mechanism that has been developed by the more advanced nations, is to provide a means whereby individuals may exchange the goods that they produce for the goods that they wish to consume, at the times that are convenient for them.

Another important result of the introduction of money into economic processes is that values are now customarily measured in terms of an arbitrary monetary unit whose relation to the true values (measured in terms of goods) is subject to continual variation. The true values, generally called "real" values, are widely used in economic discussions, but economic transactions in general are carried on in terms of monetary units – dollars, pounds, yen, etc. The ratio of real value to money value is the "value of money," a quantity

whose variations are responsible for many errors and misconceptions in economic thought, among economists as well as among laymen.

Most of the relations that will be developed in the subsequent discussion are just as valid in terms of money as in real terms, and the words "price" and "value" will normally be applied to both concepts without qualification. Where it becomes necessary to draw a distinction, such terms as "money value" and "real wages" will be used.

To illustrate what the word "value" means in their terminology, economists often make some such statement as this: "If one orange can be exchanged for two apples, then the value of one orange is two apples and the value of two apples is one orange." Strictly on the basis of their definition of value as "exchange value," this assertion is correct, but it gets us nowhere. It amounts to nothing more than a restatement of the definition in different words. However, the economist who makes this statement is doing something else with it; he is transferring conclusions reached on the basis of his own special definition of value to another totally different value concept. When he says that the value of one orange is two apples, he is not intending to convey the idea that this is true simply because he has set up his definition in this manner. He is implying that the orange is worth two apples; that is, he is using the word "value" in its ordinary everyday significance.

The difficulty here is that whereas the statement is true but meaningless as long as the economist stays with his own definition, the switch to a new definition in midstream has made it meaningful but untrue. Even a child in kindergarten knows that if he exchanges two apples for one orange, he cannot get the apples back unless he offers *more* than one orange. The exchange was made in the first place because the orange was worth *more* than the two apples to the original possessor of the apples, whereas it was worth *less* than the two apples to the original possessor of the orange. Both parties to the transaction thus experienced a gain in values as a result of the exchange, and if the transaction were reversed both would lose. Hence it cannot be reversed. *Economic transactions are irreversible.*

Here is the reason why it is essential to recognize the concept that we are calling "value" in this work, the amount which an individual is willing and able to pay for the goods in question. If we follow the

example of the modern economist and attempt to carry out our analysis without the use of this concept, we not only have no explanation of this important fact that economic transactions are irreversible; we have nothing that explains why such transactions should take place at all. Present-day economic analyses take "demand" as their point of departure. "Let us start with demand," says Samuelson, "Everyone has observed that how much people will buy at any one time depends on price."[44] But why should they buy this specific item at all? Why do they buy this at a high price rather than that at a low price? What are the limits on demand and price, and why do they exist? These are not trivial questions; they go to the heart of the economic process, and before we can accomplish our defined objectives we must put ourselves in a position to be able to answer them. As will be brought out in the pages that follow, lack of a clear understanding of the factors that determine the overall *ability* of the consumers to buy goods is responsible for some of the most serious errors in current economic thought and practice.

One of the important generalizations in the physical field is the Second Law of Thermodynamics. This law specifies that naturally occurring physical processes can move only in one direction: a direction which involves degradation of energy to a less available state. This degradation is measured quantitatively by an increase in a property known as entropy, and the Second Law can therefore be expressed concisely by the statement that naturally occurring processes always involve an increase in entropy. Value, as defined herein, plays the same kind of a role in economics that entropy does in physics. All voluntary economic transactions involve an increase in values. Hence goods can move only in one economic direction, gradually increasing in value as they approach the ultimate consumer, because of the continued additions of time and place utility.

If everyone had to go to the refinery to buy gasoline, the value of gasoline to the ordinary consumer would be low; it only the omnipresence of the service station that makes gasoline powered transportation feasible on a large scale. So we have a whole series of values for gasoline, beginning relatively low at the refinery and increasing step by step until the ultimate consumer pays the retail price. But these values only hold good as long as the economic stream

flows in the same direction, and no attempt is made to reverse any of the transactions that have taken place. If the automobile owner decides that he has bought too much gasoline and wants to convert some of it back into money, he finds that the value of gasoline has shrunk. He either has to accept a substantially lower price, or he has to spend time and effort in finding a retail buyer, which amounts to the same thing.

Gasoline therefore does not have a unique value that can be identified as "exchange value." At any specific time and place it has two values to anyone who appraises it: a downstream value in the direction of the consumer and an upstream value away from the consumer. A transaction which involves movement of goods toward the consumer increases the actual time and place utilities, whereas one in the opposite direction decreases the actual utility. Since this actual utility is one of the determinants of value, the change in utility also changes the value. The function of money, where it enters into the economic picture, is to provide a medium which is independent of time and place, and therefore has equal value in both directions. This enables producers to convert the value of their products as objects of consumption, including the full value of the time and place utilities, into a form in which the value is invariable (ideally, at least).

The necessity for value differences to furnish the driving power for economic transactions, together with the irreversibility of these transactions because of the value differences, means that there is no such thing as a pure "exchange" in economic life, and expressions such as "exchange value" or "stock exchange" are to some extent misleading. A market transaction is an exchange, to be sure, but it is not merely an exchange; it is a dual process of sale and purchase. Aside from minor and incidental transactions, the original producer only sells, the ultimate consumer only purchases. Middlemen do both purchasing and selling, but they do not buy and sell at an "exchange price." They buy at one price and sell at another. Even barter is not a pure exchange from an economic standpoint. What appears to be a simple exchange of wheat for fish, for example, is a dual economic process. The farmer is using excess wheat (purchasing power to him) to buy fish (goods to him), whereas the fisherman is using fish (purchasing power to him) to buy wheat (goods to him). The difference

between this and a mere exchange quickly comes to light if one tries to reverse such a transaction. It then becomes apparent that the value of either commodity as purchasing power is considerably less than its value as goods.

It is quite possible that a decrease in value may take place at some point along the economic path where increasing value is the general rule, but such decreases do not take place by reason of economic transactions; they are the results of unilateral revaluation *between* transactions. A merchant may buy certain goods at a relatively high price and then find that he cannot sell them unless he reduces his selling price to a point below the original cost, so that he sustains a net loss, but this does not alter the fact that both of his transactions, purchase and sale, increased values at the time they occurred. The value of the goods to the merchant at the time of purchase exceeded the price that he had to pay; otherwise he would not have bought them. Their value to him at the time of sale was less than the selling price; otherwise he would not have sold them. Both transactions increased values, but between the time of purchase and the time of sale the merchant found that he had made a mistake, and he was forced to reduce his valuation of the goods.

The difference between the value to the buyer and the value to the seller can be compared to the physical concept that we call "force." Where appropriate conditions exist in the physical field, an unbalanced force causes physical motion. Where appropriate conditions exist in the economic field, a difference in values causes economic motion; that is, an economic transaction.

Theoretically, *any* unbalanced physical force – a net excess in one direction or the other – will cause motion. In practice, however, this excess force must normally be great enough to overcome a certain amount of *friction* before movement is possible. Similarly, in the economic field there is *economic friction* to overcome, and transactions do not take place unless the difference in values is sufficient to overcome this friction. The market transaction is therefore a complex event involving a range of values whose significance cannot be accurately reflected by any single quantity such as the sales price, or "exchange value."

## CHAPTER 7

# Wealth and Capital

It was pointed out in the earlier discussion that the actual utility of goods at a specific time and place depends on the nature of the wants that can then and there be satisfied, as well as upon the inherent characteristics of the goods themselves. Food, for instance, has a high utility if it is available when and where it is needed. It does not follow, however, that an infinite amount of food at that time and place would have infinite utility. If Crusoe picks and eats a banana, the fruit contributes toward relieving his hunger, a very important want, and it also satisfies his desire for a tasty food, another want distinct from mere nutrition. A second banana is not quite the equal of the first, as the sharp edge has been taken off the hunger sensation, and the taste satisfaction probably lacks something of being the equal of that gained from the original unit. By the time he reaches the fifth or sixth banana, the ability of another one to satisfy either hunger or taste *at this time* has sunk to a low level, and if he keeps up the process he soon arrives at a point where bananas have no further utility to him at the moment.

This situation, we find, is not a peculiarity of bananas, but is characteristic of utilities in general. After the point of maximum utility (often the first unit) is passed, the utility of each successive additional unit becomes less and less until it finally reaches the vicinity of zero. This is called the principle of *diminishing utility,* and it is one manifestation of the general principle of *diminishing returns,* a mathematically based relation of very wide applicability.

For many economic processes the utility of the last unit of a kind, the *marginal unit,* has a particular significance. Of course, any one of the group could be the marginal unit. In the case of the bananas, no specific one can be singled out, prior to being selected for eating, as

having more utility than another, but this is simply because we cannot tell in advance which will be selected first. We can, however, say definitely that the first banana picked will have the maximum utility, and the last one will have the least utility. As soon as the selection is made, the utility is determined. The utility of the last, or marginal, unit is the marginal utility of the total supply of bananas.

Like the supply and demand relations, the concept of diminishing returns and the marginal concept have been quite fully developed by the economists, and for present purposes the results of their work can be accepted substantially as given in the economics textbooks. These concepts will, however, play an important part in the discussion of the nature of interest and other aspects of the cost of the services of capital later in this chapter, and they will therefore be reviewed in somewhat more detail than would ordinarily be necessary for standard textbook material.

Value, like utility, is subject to the principle of diminishing returns. As the utility of successive units decreases, value likewise tends to decrease. However, the two quantities do not move in parallel courses. The actual value is generally well below the potential value because of the modifying effect of the availability of substitutes, etc., and since it is the potential value that is reduced by the diminishing utility, rather than the cost of substitutes and the other determinants of actual value. The value is maintained in the face of diminishing utility until the utility reaches a low enough point to have a direct effect. But when the value starts to drop, it decreases faster than utility because total utility is limited by wants, which are practically infinite, whereas value is limited by productive capacity (ability to buy), which is decidedly finite.

To illustrate how value controls productive activities, let us assume that wild pigs are plentiful on Crusoe's island, so that an average of only four hours per animal is required for hunting, transportation, and preparation of the meat. Let us further assume that deer are to be found less frequently and farther away, so that it requires 12 hours on the average to obtain an equivalent quantity of venison. Obviously the bulk of the meat requirements will be met by hunting pigs, since the same values can be obtained at less cost. But as the diet of pork continues monotonously week after week, the marginal value of pork

drops to some extent, whereas the desire for a change in diet causes an upward revaluation of venison. If Crusoe is living close to the limit of survival he may still be unable to raise the valuation of venison very much, perhaps not above 6 hours, and since it is not obtainable at that cost he will have to forego deer hunting. But if he has enough margin over the bare necessities, he may be able to place a value of 12 hours each on a limited number, say two or three animals per year, and an occasional expedition into the deer country then becomes feasible. Still more frequent hunting would not be possible under these circumstances, as venison would then cease to be a special treat, and its marginal value (now determined primarily by the cost of pork) would drop below the cost of production.

As long as we are dealing with goods such as the bananas and meat of the preceding discussion, rapid deterioration prevents any appreciable amount of storage under the conditions prevailing in the Crusoe economy. There are other goods, however, which can be stored for substantial periods of time, and this feasibility of storage introduces another important factor into the economic picture. We will apply the term "wealth" to any accumulation of goods, and we will define the term accordingly.

***Wealth* is an accumulation of goods.**

A very important point that should be emphasized here is that *money is not necessarily wealth*. As will be brought out in the chapter on money and credit, money was originally some kind of goods that enjoyed wide acceptance as a trading item. This kind of money is an accumulation of goods and therefore does constitute wealth, although its value as wealth is not necessarily as great as its value as money. But modern money is almost entirely a credit creation, and it has no value in itself. It is only a *claim against wealth.* It has value to an *individual* only to the extent that some other individual can be induced to accept it in exchange for goods. The existence of money or other credit instruments thus adds nothing at all to the assets of the community as a whole. This is quite obvious when we consider the question in isolation, but like so many other economic truths, it is often lost to sight in the confusion of detail that surrounds specific economic problems, and we will find in the course of our inquiry

that a great deal of unsound economic thinking is founded on the fallacious belief that money and credit instruments, particularly the latter, *do* constitute wealth.

The advantages of laying up a provision for the future in the form of a store of goods are so obvious that it does not take human intelligence to recognize them. Animals and even some plants make it a regular practice. The familiar example of the squirrel and his store of nuts is only one of many instances of this kind that can be found throughout the world of living things.

Consumption of the class of goods typified by the acorns that the squirrel stores away in some hollow tree is characterized by immediate use of all of the utility of the goods. When anyone eats an apple, all utility of the apple is eliminated. If we store such goods we merely postpone the enjoyment of their utilities to some future time. No utility is derived from the goods in the interim, aside from such satisfaction as may accrue from the feeling of security against future failures of the food supply. In fact, there is usually a certain amount of cost involved in providing storage space, maintaining proper storage conditions, and guarding against loss. In order to make such storage practical, therefore, it is necessary that the present value of the utility to be derived from the use of the stored goods at some future date be sufficiently in excess of the value of the goods for immediate consumption to justify these storage costs.

There is another class of goods that are consumed gradually rather than all at once, and yield utilities to the consumers over a period of time. When a certain amount of labor is expended in building a house, consumption of the product does not take place in one act, in the manner of consumption of food. The utility which the dwelling is capable of furnishing is developed over the entire useful life of the structure. For purposes of our analysis it is necessary to distinguish between these two classes of goods, and we will identify them by the terms *transient goods* and *durable goods* respectively.

It is convenient for many purposes to restrict the "durable" classification to goods that have a substantial lifetime. Many accounting procedures, for instance, allow tools to be capitalized only if they have an estimated life of more than one year. A similar criterion

is applied to consumer goods in general by the economists, and on this basis such products as clothing are excluded from the durable category. From our analytical standpoint, however, the crucial issue is whether the consumption of the goods takes place immediately. If not, the length of the useful period is merely a limitation on total utility and value.

Time enters into the determination of the utility of transient goods only because the life of such goods is limited. The total utility of these goods is the summation of the utilities of the individual units that can be used during the limiting period of time. Values are based on the utilities thus derived, with certain modifications due to other factors, and have no time dimension; that is, the goods have a value at a specific time and place, and the same or some different value at another time and place prior to their consumption, but they do not have a value over a period of time. An orange may be worth ten cents at one time and place, or twenty cents at another time and place, but it has no value per unit of time. We cannot say that it is worth a certain amount per day or month.

The value of durable goods, on the other hand, does have a time dimension. The immediate utility of such goods is negligible. When time approaches zero, utility also approaches zero. The utility of a hat for an infinitesimal period of time is infinitely small. But durable goods have a *rate of utility.* A hat has a finite utility per week or per month. The total utility of the hat is then the integral of the utility over the useful life, or we may say that it is the product of the average utility per unit of time and the length of time the hat is in service.

Corresponding to the rate of utility, durable goods have a *rate of value,* a value per unit of time. These goods also have an immediate value, even though they have no immediate utility, as future utility is one of the elements entering into the determination of present value. In the modern economic organization we commonly recognize both immediate value and rate of value in connection with durable goods. We can buy a house for $100,000, or rent it for about $1500 per month. During the month we get essentially the same utility from the house whether we buy or rent. Indeed, we may not even know at the time whether we are buying or renting, as it is a common practice

to execute rental contracts with an option to purchase that calls for a portion of the rent to be applied to the purchase price.

Immediate value is the present equivalent of all of the values which are estimated to be realized over the useful life of durable goods. When the rate of value is the same for two articles, the immediate value of the one having the longer life is the greater. However, if we start with short-lived goods, and examine the immediate value of goods that have the same rate of value but successively longer life periods, we find that beyond the first few increments the immediate value increases more and more slowly, and finally approaches a limit. Thus an item with an extremely long life does not have an extremely high value. There is a limit to what an individual is willing and able to pay for it.

Let us assume, by way of example, that the climate of Crusoe's island is such that he has a continuing need for a hat, and that the type of hat which he wears has a useful life of one month. Then, for convenience, let us establish our system of units on such a basis that the utility of a hat is one unit of utility per month, and the value realized from one month's use of the hat is one unit of value, so that utility and value are commensurable. Now if an improved hat, similar in all respects except that it has a useful life of two months, is produced, the rates of utility and value remain the same, but the immediate value of this new hat is two units, since it is the equivalent of two of the less durable hats.

If the improvement process continues, and hats with a still longer life become available, the total utility realized from a hat increases in proportion to the extension of the useful life. The immediate value, however, soon begins to lag behind the utility because of the finite limit to Crusoe's productive capacity. He is not *able* to devote more than a certain amount of time to the manufacture of hats, and he is not *willing* to spend even this much, as other wants take precedence. Hence he might not credit a hat with a useful life of ten months with more than perhaps eight units of value, he might give one with a useful life of a hundred months a value in the neighborhood of 50 units, and ultimately the valuation would reach a limit beyond which he would not increase it further even if the useful life became practically infinite. The magnitude of this limiting value depends on factors such

as Crusoe's productivity, the natural advantages of his environment, etc., but we know that the limit is finite, and we can deduce that it is not very high, since neither Crusoe nor anyone else in his right mind is going to set aside any very substantial portion of his income to provide himself with headgear for the far distant future. For purposes of this present illustration, we will estimate the limiting value at 200 units.

Now let us look at this same situation from a slightly different angle. The immediate value of the second hat is two units, and since the utility and value per month are each one unit, Crusoe is using up half of the total utility and realizing half of the immediate value during each of the two months. The consumption of the utility thus accounts for the entire realization of value, just as it does in the case of transient goods. When we come to the 10-month hat, however, we find that the one unit of utility chargeable to the first month represents 10 percent of the total utility, whereas the one unit of value realized in this first month is 12.5 percent of the total immediate value. In this case, then, the consumption of the utility no longer accounts for all of the values realized from the use of the hat; there is an additional increment of value over and above the value corresponding to the amount of utility consumed.

As the hat life increases, this value increment approaches a fixed limit, since one month's consumption of utility in the use of a permanent article is zero, and all of the value realized by the use of such an article is due to the excess value factor. In the illustration given, this limiting increment is 0.5 percent of the immediate value. The following tabulation shows the entire situation:

| Life (months) | 1 | 2 | 10 | 100 | permanent |
|---|---|---|---|---|---|
| Value | 1 | 2 | 5 | 50 | 200 |
| Monthly value realized | 1 | 1 | 1 | 1 | 1 |
| Percent of total value | 100 | 50 | 12.5 | 2 | 0 |
| Monthly use of utility | 1 | 1 | 1 | 1 | 1 |
| Percent of total utility | 100 | 50 | 10 | 1 | 0 |
| Monthly excess value | 0 | 0 | 2.5 | 1.0 | 0.5 |

We thus find that the rate of value of durable economic goods includes not only the value of the utilities that will be consumed during their

useful life, but also an additional amount. This increment is a direct mathematical consequence of the fact that man's productive capacity is limited, and it represents the value of the use of the unconsumed portion of the goods. In essence, the mathematical relation involved here is another manifestation of the principle of diminishing returns. Since the immediate value is always finite (that is, it is not possible to devote an infinite amount of labor to the production of any item) the extension of useful life results in continually decreasing increments of value until a point is reached at which the value increment due to consumption of the utility is zero. The rate of value under this limiting condition is the *value of the services of wealth,* a quantity which can most conveniently be expressed as a percentage of the immediate value. In the example cited, it is one half of one percent per month, or six percent per year.

The fact that the services of wealth do have a value is obvious. Anyone who questions this statement needs only to reflect how different life would be if it was not necessary to take into account the first cost of durable goods; if we could enjoy their utilities merely by meeting maintenance and depreciation costs (that is, replacing the utilities as they are consumed). Even the boldest utopia promises nothing like this. But the reason *why* this value exists is not so obvious, and there has been considerable difference of opinion on this score. The objective of the foregoing discussion has been to answer this question; to show why the value exists and how its magnitude is determined.

The value of the services of wealth is, of course, the basis for the existence of *interest,* and a consideration of the mathematical derivation of this value in the preceding paragraphs should be sufficient to dispose of most of the misconceptions as to the nature and origin of interest that are now prevalent. It is quite generally believed that interest is something which developed after the economic organization had reached a rather high degree of complexity, and it is true that the practice of *charging* interest on loans is of fairly recent origin – some of the churches considered this practice immoral up to a few centuries ago. But even Crusoe, who knew nothing of interest, or of borrowing money (or of money itself, for that matter), was faced with exactly the same situation. Because of the finite limits to his productive capacity, the use of existing wealth had a value to him over and above the value

attributable to the utilities consumed, and he could not afford to put his available labor into the production of durable goods from which such values are not obtained.

Present-day theories of interest generally attribute it either to time preference, or to the productive capacity of wealth, or to something on the order of Keynes' concept that it is "the reward for parting with liquidity for a specified period of time,"[45] but it should be evident from the foregoing analysis that none of these factors is basic. Any preference for present consumption over future consumption, or vice versa, or any preference for liquidity, will modify the rate of interest, but as long as human productive capacity is finite the services of wealth have a value, and hence an interest rate exists independently of any time or liquidity preference. Similarly, the productivity of wealth in certain forms may have an effect on determining the current rate of interest, but the services of wealth have a value even if that wealth is in such a form that it can neither be used in production nor converted to a productive form. The existence of interest is a purely mathematical consequence of a finite productive capacity.

Under the limiting condition of extremely long life, the value of the utilities consumed during a relatively short period-a year, for instance-is zero, and the entire value rate is attributable to the services. The limiting condition in the other direction is represented by transient goods which approach zero useful life, and therefore have no service value. Durable goods occupy the entire range between these two limits, varying from items which have a very short life and therefore have a value comparable to that of transient goods, to items which last almost indefinitely, and thus have a value approximating the value of the services alone.

In setting up a definition of the term "goods" in Chapter 5 it was necessary to take into account a class of items which do not have the ability to satisfy human wants directly, but which contribute in an indirect manner to such satisfactions by taking part in the production of goods suitable for direct consumption. Heretofore the discussion has been confined to direct consumption goods, but we have now reached the point where we are ready to begin considering this second major goods classification. To distinguish between the two we will use the terms *consumer goods* and *producer goods.*

Consumer goods were further subdivided into transient goods and durable goods. Corresponding to transient consumer goods is a class of transient producer goods consisting of *materials and supplies* and *production services.* Some of these transient goods fall into the category of producer goods by virtue of necessity, being inherently incapable of satisfying human wants. Limestone, for instance, ministers to no want directly, but it is an important factor in the production of many goods which do satisfy wants. Other materials could be used either as producer goods or as consumer goods, and their classification must be based on the purpose for which they are actually used, or for which they presumably will be used.

In the primitive economies where each individual is a combination producer and consumer there is some uncertainty as to the classification until the time of use, but as the evolution of economic organizations has progressed, producers and consumers have been separated in most cases, and this makes the matter of classification much simpler. All goods in the possession or ownership of consumers, other than those to which they have title because of their ownership of the producing enterprises, can be classified as consumer goods. Goods held by producers for sale, directly or indirectly, to consumers are also consumer goods, but all other goods in the possession of producers are presumably intended for use in the production processes and hence are producer goods.

Transient producer goods differ from transient consumer goods in that their utilities are used but not consumed. In the process of consumption the utilities possessed by consumer goods are destroyed, but in the utilization of producer goods the utilities are passed on to other goods. Sugar consumed has lost all utility, but the utility of sugar used in making candy still exists as definitely as ever until the candy itself is consumed. The utility of the lubricating oil that overcomes friction in the bearings of the locomotive is transformed into place utility added to the products transported with the aid of the locomotive.

Producer goods can have no utility, as that term is defined in this work, other than the extent that they can be employed for the purposes of producing or increasing the utility of consumer goods. The measure of their utility is therefore the contribution which they are able to make toward creating other utilities. This means that the actual utility

of producer goods is dependent to a large degree on a factor which does not enter into the utility of consumer goods: the efficiency of the productive process. The relation between potential and actual utility is therefore much less simple than in the case of consumer goods.

All of the general discussion of utility and value in the preceding pages applies to transient producer goods in the same manner as to transient consumer goods. The only observation that needs to be made in this connection is that the mental calculations leading to appraisal of the value of producer goods are somewhat more roundabout than the corresponding calculations for consumer goods. On the other hand, the subjective element is much less prominent, and the variations between appraisals made by different individuals is correspondingly minimized. In the final analysis, however, value is still a matter of individual judgment.

Corresponding to durable consumer goods are *durable producer goods* with similar characteristics. The term *capital goods* will be used to cover both durable producer goods and production materials; that is, all tangible producer goods.

In setting up this, the first of a series of definitions in the field of capital, we are entering another of the major areas of economic controversy, As Fraser expresses it, "Capital... is the most difficult term in the whole range of elementary analysis."46 But here again, the controversy is wholly unnecessary, at least from the standpoint of a factual economic science. The debate is addressed to the issue as to how capital and associated terms *should* be defined. Once more, as in the case of value, the economists are putting the cart before the horse. They are first setting up a name, "capital," and then trying to attach a definition to it. The logical procedure, the standard procedure of science, is to reverse this sequence, first formulating and defining the concepts that will be used in analyzing the phenomena in question, and then attaching appropriate names to them. The definition of capital goods set forth in the preceding paragraph is not being presented as the way in which this term ought to be defined, but as the description of a concept which will be used in the ensuing discussion, and to which the designation "capital goods" can appropriately be applied.

Since capital goods have been defined as tangible producer goods, and producer goods are those items which contribute in an indirect manner to the satisfaction of wants by taking part in the production of other goods, it follows that all of the items that the economist includes under the category of "land" are capital goods on the basis of this definition. At first glance this may seem to be completely heretical, since it is in direct conflict with the time-honored classification of the factors of production as land, labor, and capital. In reality, however, the economists themselves are growing weary of trying to maintain this distinction without a difference, and here and there in the economic literature we are beginning to find admissions of disillusionment such as this from Fraser: "For the moment we are left with the conclusion that it might have saved much time and trouble if the word "land" had never come to be used as the name of a factor of production in economic theory."[47]

The trouble here stems from the fact that the original distinction between land and capital was not drawn on the basis of any economic analysis of the relation of these factors to economic processes, but rather on the basis of the particular social and technological situation existing in England and the neighboring European countries at the time when economic theory was in the formative stage. It is a *social* distinction, not an *economic* distinction. The British economy at that time was predominantly agricultural, and ownership of the agricultural land was primarily in the hands of a landowning class of society quite distinct from the tenants in one direction, and from the industrialists and factory workers in another. This combination of an economy based principally on a production process in which land plays a very important part, together with the existence of a social class deriving its income almost exclusively from the ownership of land naturally made a very strong impression on the early economists, and recognition of land as a separate factor of production followed somewhat as a matter of course.

As the development and clarification of economic ideas continued, however, it became more and more difficult to justify setting land off by itself as something distinct from any other economic item. To Ricardo and other early economists it seemed clear that land, as a product of nature, was inherently of a different character than goods

produced by man, but it soon became evident that whatever could be claimed for land in this respect was equally true of the facilities utilized by the extractive industries-mines, quarries, etc.–and the economists' definition of "land" was therefore enlarged to include all "free gifts of nature."

Still further study revealed that this step taken to eliminate one difficulty simply plunged the theory into another. When "land " was redefined as a gift of nature to distinguish it from the products of human effort, the status of land itself as "land" in the economic sense became questionable. Productive land is not ordinarily a gift of nature. The raw material is supplied by nature, to be sure, but in order to fit it for a specific productive use an amount of effort is required which is not at all disproportionate to the amount of effort required to fashion mineral "land" into a productive machine. In the words of Fraser, "field and machine are alike in being the *results* of applying technical processes to a given material. From which it follows that fields are not "land" in the strict economic sense at all."[48] Now we have traveled the full circle. Land was originally designated as a separate factor of production because its special characteristics seemed to set it apart from ordinary capital goods. But when we analyze these characteristics and attempt to set up a definition that recognizes this presumably unique status, we find ourselves with a definition which excludes land itself. Actually, land is a *form of* capital goods, and therefore cannot be *distinguished from* capital goods on any logical basis.

Inasmuch as we have defined cost and value in commensurable terms, we may simplify our value-cost comparisons by considering the values which will be lost by diverting effort away from the production of consumer goods as the effective cost of producer goods. This effective cost can then be compared directly with the values produced. Such a procedure is particularly helpful when the time factor enters into the situation and we want to consider the rate of cost rather than the total cost. If we extend the previous consideration of the rate of value of durable consumer goods to capital goods as well, we arrive at a figure which represents both the rate of value of the services of productive wealth and the effective cost of using wealth for productive services, the *cost of the services of capital,* we may say.

**The *services of capital* are the services of wealth used in production.**

**The *cost of the services of capital* to the supplier is the value of the services of the corresponding amount of wealth in the form of consumer goods.**

It will be noted that we have defined the services of capital without previously defining capital itself. This may seem odd, but it is entirely logical. Whenever A is a function of B, it follows that B is likewise a function of A. We can therefore define B in terms of A just as logically as we can define A in terms of B. It is true that the simple term is usually defined before the compound term, but this is merely because the simple term is normally applied to the quantity that is most easily defined, regardless of its nature. In hydraulics, the integral quantity, the gallon, is defined before the differential quantity, the gallon per minute, but in electrical technology the opposite course is followed. Here the differential quantity, the watt, is first defined, and the integral quantity is expressed as a compound unit, the watt-hour. In the present instance we have found it simpler to follow the electrical example and define the services of capital first, and then proceed with the definition of capital.

***Capital* is the present equivalent of the future productive services of wealth.**

An analogy with labor may be useful at this point. Labor is analogous to the services of capital, not to capital itself. Capital is analogous to the present equivalent of future labor, a concept to which no name has been attached. Here we note that labor, the continuing item, analogous to the differential quantity in physical relations, is the thing that has been defined, and to which a simple name has been applied. If we wish to speak of the present equivalent, analogous to the integral quantity in physical measurement, we then express this quantity in terms of labor. This is exactly the same thing that we have just done with capital.

The distinction between wealth and capital should be carefully noted. Wealth, as herein defined, yields satisfactions. Capital, as herein defined, yields goods. Capital meets the specifications of wealth indirectly, as goods yield satisfactions, but the converse is not true as satisfactions do not yield goods. Wealth which does not already exist in the form of capital goods is capital only to the

extent that it can be converted into capital goods. In the primitive types of economies such conversion is possible only in certain special cases, except to the extent that the consumption of stored goods may release labor for the production of capital goods. Wealth in the form of durable consumer goods must remain in this status until consumed. Later, when we consider more complex economic organizations we will find that means become available whereby the individual (but not the economic unit as a whole) can make the conversion from wealth to capital through transactions with other individuals. But even here we will find that it is not possible to make a complete conversion; that is, the value of goods as capital is normally less than the value of goods as wealth to be consumed.

It may not be immediately apparent why we have adopted a somewhat roundabout way of defining capital rather than merely saying, as the economists do (if they visualize capital in anything other than purely monetary terms), that it denotes goods devoted to production, or words to that effect. One reason is that there is a very important difference between wealth and capital that is ignored by such a definition. Since this difference will play a significant part in the subsequent analysis, it is necessary to take it into account from the start. Any tangible consumer goods that have a degree of permanence constitute wealth. In order to be classified as goods they must have utility, and that utility. however small it may be, has some value, and is preferable to no utility at all. Hence all such goods are assets to their owners and meet the definition of wealth. But not all capital goods constitute capital.

By definition, capital goods are goods used or intended to be used in the production of other goods. A tool which Crusoe has made for use in his productive activities meets this definition. But let us assume that after some experience with the use of the tool, Crusoe finds that the labor required to keep the tool sharp enough to serve its purpose exceeds the labor saved by the use of the tool. Immediately it ceases to be capital. The tool can still be used in production, and when it is so used it is the equivalent of a certain amount of labor, but it is not the equivalent of *enough* labor. We cannot say of capital goods, as we did of consumer goods, that a little utility is preferable to none at all. The zero point for the utility of capital is not at absolute zero,

as in the case of consumer wealth, but a higher figure representing the cost of maintaining the capital. Any satisfactions that are derived from consumer wealth constitute a net gain, but unless the goods produced by the use of capital exceed a certain minimum, the net result is a loss.

The foregoing is not intended to imply that there is anything inherently incorrect in using the term "capital" synonymously with "capital goods ", or applying it to an accumulation of money, but such definitions preclude the use of this term in any accurate sense. Money, as such, serves no purpose in production, and consequently it is not capital, so far as the economy as whole is concerned. It is the *equivalent* of capital to the individual only because it enables him to secure capital from some other individual. Capital does exist in the *form* of capital goods, but the common usage of the term "capital" even in the textbooks that define it in another way, is clearly inconsistent with any other definition than that given herein. When we say that a person has lost his capital through unwise investments, we are not implying that the capital goods to which he acquired title have disappeared or changed in any way. We simply mean that these goods do not have the earning power that the owner anticipated. When we speak of capital gains and losses in our tax jargon, we are not talking about any change in physical goods, we are talking about revaluation of those assets based mainly on present views of their future earning power.

All capital, as herein defined, is subject to the cost of subsistence, regardless of the form in which it exists. This is easy to see in the case of tools, buildings, and other items which visibly wear out or depreciate. It is no less true of capital in a presumably "indestructible" form. Even diamonds and bars of gold require protection and care, and the cost of that attention is a charge against capital. Land is often cited as an example of an indestructible form of capital, but to the rather limited extent to which land can legitimately be described as indestructible, it is as a capital good that the term is applicable, not as capital. Land is by no means free from maintenance costs. Furthermore, in order to constitute capital, land must be restricted as to ownership (nationally, if not individually), and ownership cannot be restricted without cost. Where the ownership is individual, the owner must either stand the cost of defending his title personally, as was the rule under primitive

or feudal conditions, or he must rely upon organized society to defend it for him, in which case that society will tax him to defray the cost. Unless the land produces enough to support this cost, capital will erode away, even though the land itself remains intact.

Regardless of the stage of economic development or the nature of the existing economic institutions, a continuous replacement of capital is required in order to maintain the existing capital supply. Once the replacement ceases, or is diminished, the capital in service begins to decrease, for the process of capital deterioration never stops. Many a business fails because the owners are unable to appreciate the necessity of diverting part of the current income into a depreciation fund which will enable replacing capital goods that wear out or become obsolete.

Much of the effort that is devoted to attempts to improve the economic status of workers at the expense of their employers likewise ends in futility because it conflicts with this same necessity of replacing capital. Because of factors which will be discussed in detail in the subsequent pages, the impact of most of these actions ultimately falls on the general public rather than on the employers at whom the actions are aimed, but if circumstances are such that an action of this kind does have the intended effect, this merely kills off the enterprise, as the owners of an unprofitable business are not inclined to increase their losses by making financial provision for depreciation, and without such provision the enterprise cannot long survive.

Now let us turn our attention to the question as to the value of capital. In order to be consistent with previous definitions it will be necessary to define the value of the services of capital is this manner:

> **The *value of the services of capital* is the amount which the producer is willing and able to pay (or, in the case of a self-employed individual, the amount of labor he is willing to expend) to obtain these services.**

As in the case of consumer goods, the cost of substitutes is one of the determinants of the value of the services of capital. In many applications labor is a satisfactory substitute, and in general the cost of labor is the controlling factor in determining the extent to which capital is used. When the cost of labor is low, the value of the services of capital is likewise low, and since the cost of capital is relatively constant, the use of capital is minimized. Where the cost of labor is

greater, the value of the services of capital rises accordingly, and the relation of this value to the cost of capital becomes more favorable, hence the use of capital increases.

Another of the determinants of the value of the services of capital is the contribution which those services make toward production. If a workman using hand tools can make only two pairs of shoes per day, but by installation of power machinery can raise his daily production to twenty pairs, the difference of eighteen pairs, less the cost of operating and maintaining the equipment (including provision for depreciation) represents the gain made by the use of the machines. The value of the services of the capital invested in the equipment cannot exceed this amount, and it therefore constitutes a determinant. In accordance with the general principles governing multiple determinants, the factor that is controlling in any given situation depends on the particular conditions existing at the relevant time and place.

## CHAPTER 8

# The Economic Mechanism

All of the accessories that are added to the economic system as a result of the introduction of a medium of exchange exist only for the purpose of facilitating the exchange of goods (purchasing power) for goods (articles of consumption). The same is true of the new features that are added when the economy moves forward to a still more complex type of operation: the fourth stage of economic development.

Basic economic changes do not take place overnight. At the time they originate they are usually inconspicuous and seemingly of minor importance, and they develop so gradually and unobtrusively that they are often in full bloom before there is any general realization of what has happened. The transition from the third to the fourth stage of economic development has been no exception. Even today there is no general understanding as to when the change occurred, or as to the precise nature of the modification in fundamental economic processes that was involved. Economists have generally considered that the so-called "Industrial Revolution" caused by the introduction of power driven machinery into the manufacturing industries marked the beginning of the modern economic era. But the application of power to manufacturing was a technical, not an economic, change, and its economic effects were merely matters of degree, not basic modifications of the system. Similarly, the transition from small establishments to large establishments was an important step, and it made major problems out of items that were previously of little consequence, but from the economic standpoint it did not introduce anything new. It did not constitute a fundamental alteration of the mechanism.

Centuries of progress lie in between the village cobbler and the great shoe manufacturing corporations of the present day, but the significant economic step in the route from one to the other was not the application

of power nor the introduction of mass production techniques. The profound basic change in the economic system occurred when the cobbler first employed a helper. *The step that ushered in the fourth stage of economic development was the introduction of a separate producing entity.*

By this innovation, the original single step barter transaction, which was expanded to a two-step process through the use of a medium of exchange, has now become a four-step process. The cobbler, who is still in the third economic stage so far as his own personal productive efforts are concerned, exchanges the goods (purchasing power) that he produces for money and then completes the transaction by exchanging this money for goods (articles of consumption). The new helper participates in a cycle of an entirely different character. He never handles goods as purchasing power at any time. He exchanges his labor for money and then exchanges money for goods (articles of consumption). But this is only half of the full exchange cycle. The money the helper receives comes from the cobbler, not from the ultimate consumer. To complete the transaction it is necessary for the cobbler to step into a new role. Here he is no longer a combination producer and consumer, but merely a producer. As such, he first exchanges goods (purchasing power) for money and then completes the cycle by exchanging money for labor.

It should be noted that *in his capacity as a producer* the cobbler puts nothing into the economic process and takes nothing out. *In his capacity as a supplier of labor* he gets a portion of the proceeds that can be classified as wages, and *in his capacity as a supplier of tools and equipment* he gets another portion as compensation for the use of that capital. *In his capacity as a consumer* he exchanges the purchasing power thus obtained for consumer goods, perhaps putting some of it back into the business, retaining the ownership thereof. When each of these actions is viewed in its *economic* significance, rather than in its *social* significance (as actions of a single individual), it can be seen that *all* of the proceeds of the business are paid out, actually or constructively, to the suppliers of labor and the suppliers of capital. *All* of the net production of goods goes to consumers.

Another important feature of the modern fourth stage economic

mechanism is that its operation is a *continuous* process. In technical work, whenever we are dealing with a continuous process of any kind we find it very helpful to prepare a flow chart: a simplified diagrammatic representation of the process, which provides a convenient means of following the action through its various stages, and also enables us to visualize the relationships between the different parts of the process more readily than would be possible without such assistance. In line with the stated policy of this work that involves taking advantage of all of the effective methods of the engineering and scientific professions, the accompanying chart, Figure 1, has been prepared to picture the modern economic mechanism as it appears in the light of the findings detailed in this volume.

We may regard the economic system as an intricate mechanism into which we put labor and out of which we receive satisfaction of some of our economic wants. Accompanying our labor into the mechanism is a stream of *economically worthless* raw materials which act as carriers for the utilities that furnish our satisfactions. These materials pass through the machine and its various processes and are then ejected, *again worthless:* that is, without economic value.

For example, let us take the case of coal. Deposits of coal buried beneath the earth's surface at some unknown location are worthless from an economic standpoint. If they remain unlocated, as some of them no doubt will, they will remain worthless to the end of time. However, by applying labor to discovery (a form of production) we bring the coal into the economic system. It takes on utility and simultaneously acquires a status and value as purchasing power as soon as it is discovered. From then on during mining, transportation, and storage, further utility and correspondingly greater value as purchasing power are created by the application of additional labor, together with tools and equipment produced within the economic system itself. Finally the coal is burned to provide human satisfaction in the form of heat or power. In this process utility and purchasing power are both extinguished (that is, they are transformed into the satisfactions), and the coal, now in the form of ashes, water vapor, and carbon dioxide, and as worthless (from the economic standpoint) as the undiscovered coal beds, having served its purpose, is ejected from the system.

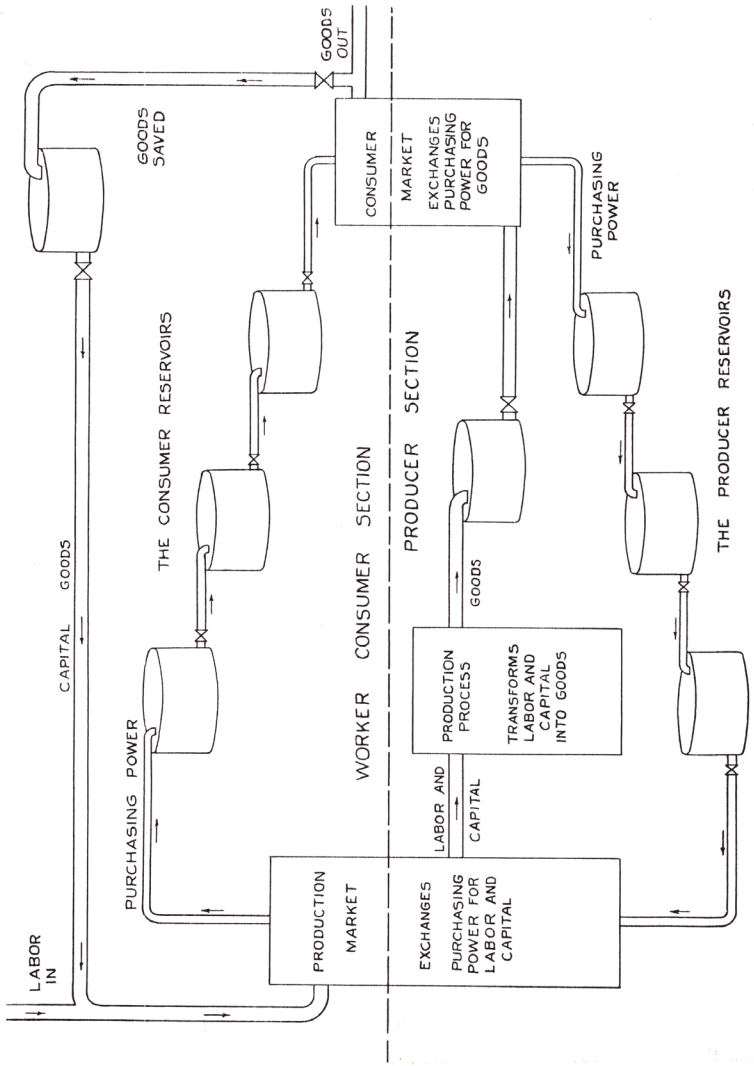


Figure 1: The Continuous Flow Process
of the Modern Fourth-Stage Economy

Nothing enters the system but labor and worthless materials; nothing leaves but satisfactions and worthless materials. Purchasing power and capital are created by the application of labor to production, and both exist only within the system. Purchasing power is destroyed by consumption. Capital returns to the productive process and is there utilized to facilitate production. Since materials do not participate in economic processes other than as carriers of utilities, it is possible to disregard them and simplify the presentation by considering the utilities of goods (their economic rather than their physical aspect) as the goods themselves. On this simplified basis, we put labor into the economic machine and get goods out.

Coal has been deliberately selected as an example because it illustrates a point which is essential to bear in mind whenever economic questions are under consideration. There will be a contention to the effect that undiscovered deposits of coal do have a value. It will be pointed out that the country which has undiscovered resources will ultimately find at least part of them, and therefore is better off than the country which has no natural resources to discover. This argument is entirely valid, but the value of the undiscovered deposits is only one of many values which are not economic values (as herein defined) even though they may, either now or in the future, contribute toward economic well-being. So far as the operation of the economy is concerned, values can only exist to the extent that they can enter into transactions with other values. We cannot even buy so much as a loaf of bread by means of the value of an undiscovered mine. The country whose inhabitants have a high level of education and are skilled in the arts and sciences is far better off than those not so favorably situated in this respect. The climate of Florida or California is a definite asset to the inhabitants of those areas, and an adequate amount of rainfall is decidedly advantageous for agricultural purposes. Nevertheless, these items have no value in the sense of being able to participate in economic transactions, and when we are studying economic processes we must confine our analysis to those items which actually take part in the activities that we are investigating.

It might be mentioned that the probability of discovering mineral wealth may have an economic value. Land in the vicinity of a proven

oil field may sell for a high price simply because of the chance that the field may extend to this area. Such speculative values are however, created by the discovery of the original field, or by finding favorable geological conditions; they would not exist in the absence of some kind of discovery.

Returning to the flow chart, we see that the labor which is put into the economic system joins with the services of capital diverted from the stream of finished goods, and flows through the production market to the production process, where this combination of productive factors is converted into goods. The goods then pass on to the goods market and thence out of the system by way of consumption, except for that portion of the stream diverted back to production as capital. This is the main stream of economic activity. Through it the basic purpose of this activity is accomplished. All other features of the mechanism are purely accessories, the purpose of which is to facilitate the operations that take place along this main stream.

Economic activity is often portrayed, both in words and in flow charts similar to Fig.1, as a *circular flow* of two oppositely directed streams: a stream of goods and factors of production and a stream of money. Lloyd Reynolds explains his chart of the "circular flow" in this manner: "Money moves around the circuit in a counterclockwise direction. Physical quantities – factors of production and finished products – move in a clockwise direction. If we do our arithmetic correctly, the two flows must exactly balance each other."[49]

But the main stream of the economy does not flow in a circular path. Individuals in their capacity as workers put their labor into the machine at one end, where it is converted into goods. The stream of goods, the main economic stream, then flows *unidirectionally* to individuals in their capacity as consumers, and passes out of the system. It does not return to the starting point and begin another cycle, in the manner of a circular flow. The main stream never turns back. It always flows in the same *economic* direction: from producer to consumer.

There is a reverse flow of the goods which are diverted back into the system as capital; that is, these goods return to the production end of the mechanism, but they merely supply productive services. They do not reenter the primary goods stream, and do not participate in a

circular flow. On the other hand, the flow of the auxiliary stream of money purchasing power *is* circular. After having made a complete circuit, this stream *does* reenter the production market and the *same money* begins a new cycle.

There is an unfortunate tendency to regard such distinctions as the foregoing as mere hairsplitting. "This is only a rough diagram anyway," someone will say. "What difference does it make whether the flow is circular or not?" The answer is that in order to understand how any system operates we must see that system as it actually is, not in some way that distorts the picture. The circular flow concept, and the diagrams that represent it, treat the goods flow and the circulating purchasing power flow as equivalent phenomena, and apply the same development of thought to both, whereas, in reality, the goods flow is an open unidirectional system while the purchasing power flow is a closed circular system. The difference is a critical one.

In the open system of goods flow in the economy (or the analogous heat flow in the engine) there is a definite *rate of production,* which is also the rate at which goods (heat) flow(s) away from the production process. There is no definite *total* quantity of goods (heat) involved, other than a total during some arbitrarily specified time interval. In the closed system of purchasing power (cooling water) flow, on the other hand, there is a definite total quantity of circulating purchasing power (water) in the system, but there is no fixed *rate of flow,* as this rate can be varied arbitrarily.

It should be obvious that any theories which equate these completely different flow phenomena, and apply the same considerations to both, cannot have any validity, yet this is just what much of current economic thought attempts to do. The "circular flow" diagram is more than a pedagogical aid; it is a representation of economic thought, and that thought is erroneous. For instance, the entire application of supply and demand reasoning to money is based on "open flow" premises – on the assumption that the relations which exist in the unidirectional goods flow also apply to the circular money flow – and as a consequence, the conclusions therefrom, including the widely accepted Quantity Theory of Money (to be discussed later) are inherently and unavoidably wrong.

One of the factors that has led to the practice of portraying the main stream of the economy as circular is a failure to recognize the true *economic location* of each of the participants in economic processes. Each worker is also a consumer, and the chart constructors therefore place workers and consumers at the same location (Samuelson, for instance, combines them under the designation “households"). But in the modern economic organization the workers who take part in the production of certain goods are not, except to a very minor extent, the consumers of these goods; they are consumers of *other* goods. Even from a physical standpoint, therefore, the worker and the consumer are not at the same location, and from an economic standpoint they are at opposite ends of the mechanism.

It was emphasized in Chapter 3 that in order to arrive at correct economic conclusions we must view economic facts in their economic setting, not in their social setting, or their political setting. It is equally important not to view them in their geographical setting. A recognition of economic location is essential for a proper understanding of many economic processes, and numerous issues which generate seemingly endless confusion and controversy become clear and simple when they are viewed in the context of their economic locations.

For example, transfers of goods or of purchasing power between individuals or agencies at the same economic location, the same point in one of the economic streams, have no effect on the stream flow. The total purchasing power in the hands of consumers is not affected in the least by taking purchasing power away from consumer A and giving it to consumer B, nor is the total amount of goods in the hands of consumers affected by a similar diversion. Sale of assets such as stocks, bonds, land, etc., by one consumer to another is nothing more than a simultaneous transfer of goods from consumer A to consumer B and transfer of purchasing power from consumer B to consumer A. Such sales therefore have no effect on the general price level or any other aspect of the economy as a whole. From the overall viewpoint all consumers are alike; they are all at the same economic location.

This matter of exchanges at the same economic location will come up frequently in the course of the subsequent discussion, and it will be helpful to express it as an additional basic principle.

**PRINCIPLE IV: Exchanges between individuals or agencies at the same economic location (the same location with respect to the economic streams) have no effect on the general economic situation.**

It is apparent from the flow chart that the efficiency of the production process is one of the major determinants of the results that are obtained from our economic activities. If the efficiency is zero – that is, if the labor and capital are applied to useless work – no goods will be produced and no contribution will be made toward the ultimate goal of economic effort. This is one of the simplest and most obvious economic facts, yet some of the most influential of the modern economic "authorities" actually contend that we can enrich ourselves by doing useless work. This fallacy is discussed at length in *The Road to Full Employment.*

It is also clear from the chart that so long as the prevailing rate of productivity can be maintained, the more labor we put into the machine the more goods we get out. Hence the more workers we employ and the more hours they work the greater our production becomes, up to the point where fatigue begins to have a material effect on the efficiency of labor. This point has some very important implications in the light of the many contentions that we can solve our problems by reducing the labor force or by cutting working hours. Those matters which have to do with individuals' willingness to work are outside the scope of economic science, but all characteristics of the system that have a bearing on the ability of those desiring work to find employment are material to the inquiry and are explored in the two volumes of the present series.

The third determinant of the output of the economic machine is the amount of capital utilized in production. The flow chart emphasizes the point already brought out in the previous discussion that capital is not *essential* to economic activity; it is merely one of the expedients that have been devised to enable getting more results with the expenditure of less effort. As the chart indicates, capital comes out of the stream of goods that would otherwise go to consumption. It therefore represents a sacrifice of present enjoyment for the purpose of increasing future output of goods, and its justification is measured by the extent to which the contribution to production exceeds the sacrifice that it entails.

No economic action can have any influence on the ultimate results achieved by the machine except through the medium of one or more of these three determinants; that is, it must either cause a change in the amount of labor applied to production, a change in the volume of goods diverted to productive purposes as capital, or a change in the efficiency of the productive process other than that due to the additional capital. This point needs special emphasis because of the widespread acceptance of the idea that money circulation is the controlling factor in economic life. "Getting money into circulation" is the action that is popularly supposed to impart vigor to the economy, in some vague and unspecified way. But our analysis shows that the circulating stream is only an auxiliary. The impetus for economic activity has its source in production, not in the money circulation.

The circulating money purchasing power stream, like the cooling water in the gasoline engine, flows in a closed circuit. Except for the movement in and out of the reservoirs, and some minor and incidental fluctuations comparable to evaporation and leakage of the cooling water, nothing enters the circuit and nothing leaves. The only purpose of this money stream is to provide a medium to facilitate the exchanges that are the essence of the marketing process. As in the case of the cooling water, there is no energy in the medium itself; it will not move unless some outside force is applied. There must be a difference in values to generate the economic force that is required to initiate motion. As a worker, the individual must value the income that he receives from his labor more than his leisure; as a consumer he must value goods for present use more than the availability of purchasing power for future use. The circulation of money purchasing power is a result of the force applied to the auxiliary stream by these value differences.

The cooling system analogy provides a convenient means of visualizing the true functions of the circulating stream, and many of the pitfalls that beset the path of the student of economics can be avoided by referring to this analogy whenever questions involving the circulating medium are at issue. The functional correlation is very close, the principal difference being that the cooling system has only one pump, and the outward flow from the engine cylinders, where the

heat is generated, is always equal to the flow entering the radiator, where it is dissipated. In the long run, the same equality must exist in the circulating money stream, but in modern practice we have the equivalent of a second pump ahead of the goods market, one that is connected to money reservoirs, so that, in the short run situation, the flow into the markets can be varied independently of the flow coming from the main pump at the production end of the system.

It is necessary to keep in mind, however, that the amount of real purchasing power (ability to buy goods) transferred by means of the circulating money stream is not altered by variations in the flow of the circulating medium any more than the amount of heat transferred by the cooling water would be changed by variations in the rate of water flow. This explains why "getting money into circulation" is meaningless from an economic standpoint. Real purchasing power, the entity that is transferred by the circulating medium, is analogous to the heat transferred by the cooling water, and its magnitude is determined by the quantity of goods produced, just as the amount of heat that is transferred is determined by the quantity of heat generated in the engine cylinders. In each case the quantity transferred is entirely independent of the quantity of the circulating medium in the system or its rate of flow. Changes in the circulating flow can only affect the rate of transfer per unit of the circulating medium: BTU per gallon, or volume of goods per dollar.

In the cooling system, the rate of heat production (BTU per minute) divided by the rate of flow of the circulating medium (gallons per minute) gives us the rate of transfer per unit (BTU per gallon)—the water temperature, we may say, since the BTU per gallon is a function of the temperature. Similarly, in the economic system, the rate of goods production divided by the rate of flow of the circulating medium gives us the value of money in terms of goods, and by inversion, the goods price level. Ordinarily, the flow of water in the cooling system is maintained constant and the temperature therefore varies with the changes in heat production. It would be entirely possible, however, to install a thermostatic control which would hold the temperature constant by varying the flow in accordance with the changes in the amount of heat to be transferred.

At the production end, the economic mechanism has the equivalent of this latter kind of control. The economic "thermostat" governs the general price level and its inverse, the value of money, the economic quantity analogous to the temperature of the cooling water. The price "thermostat" can be set at any desired point within very wide limits by establishing an average wage rate. (In actual practice the wage rates are determined separately in each enterprise or industry, but this automatically establishes an average wage level for all labor.) The fact that goods and purchasing power are merely two aspects of the same thing (Principle II) then keeps the relation between production and flow of purchasing power constant. If the production of x units of goods generates y units of purchasing power, so that the average price is y/x, then an increase in production to ax units will increase the purchasing power generation to ay units, so that the average price remains y/x. The rate of flow of the circulating medium increases, but the average price and the value of money (analogous to the water temperature) remain constant.

The question as to where and how a control can be exercised over the price levels in the modern economy is an issue that is shrouded in a thick cloud of confusion in present-day economic thought. The mere fact that arbitrary "price control" can be seriously considered by economists, and even approved by some of them, is sufficient to demonstrate this point. But the question can easily be cleared up by an examination of the cooling system analogy. It is obvious that the control of the water temperature must be geared to the heat produced in the cylinders; that is, in order to hold the BTU per gallon – the temperature – at a constant level, the flow of water must be varied in accordance with the rate of heat production. It is also clear that the setting of the thermostat which accomplishes the control of this flow is arbitrary. There are certain practical limits of operation, but within this range the temperature can be set at any level. However, when this level has been selected, the temperature relations have been fixed for the entire circuit. The temperature decrement of the cooling water in the radiator must equal the temperature increment in the cylinders. *No independent control can be applied at the radiator.*

Now, if we put the same statements into terms of the economic flow system, we find first that the control must be geared to production;

that is, in order to hold the dollars per unit of goods – the price level – constant, the flow of dollars must be varied in accordance with the rate of production. Here, again, the setting of the "thermostat" which accomplishes the control of the flow is arbitrary. As in the engine, there are certain practical limits of operation, but within this range the price can be set at any level by establishing a wage rate. However, once this price in the production market has been set, the price relations are fixed for the entire circuit. *No independent control can be applied in the goods market.*

As previously mentioned, the only difference between the two situations lies in the fact that the economic organization has the equivalent of a second pump which increases or decreases the flow of money into the markets by withdrawals from or inputs into the money reservoirs. But because of the finite limits of these reservoirs, the changes that can be produced by this means are no more than temporary fluctuations (although they may be important in the short run), and no actual control over the price level can be accomplished by manipulating the reservoirs. It is quite possible, however, to set up a control *over the reservoir transactions* which will equalize input and output and thereby prevent *any* effect on the market price level.

All of these points brought out by means of the analogy are very important, and for emphasis they will be restated briefly as follows:

1. The general price level in the production market is fixed by the establishment of a money wage rate.
2. In the absence of reservoir transactions, this is also the market price level.
3. The money wage rate is set arbitrarily.
4. The real wage rate (ability to buy goods) is independent of the money wage rate.
5. No independent control of the market price level is possible.
6. Temporary fluctuations in the market price level occur because of unbalanced reservoir transactions, but can be eliminated by controlling the money reservoirs.

Inasmuch as some of these conclusions are not only in direct conflict with current economic doctrine, but also bring out some of

the hard facts of economic life that a great many individuals – both economists and laymen – do not *want* to believe and will therefore resist vigorously, this brief consideration will not be anywhere near sufficient, and the next several chapters will be devoted in large part to discussing each of these points in detail, developing them from the theoretical foundations, and bringing out the mass of factual evidence that establishes their validity. At this time, however, it is appropriate to call attention to the fact that they can all be derived from a consideration of the fundamental nature of the economic mechanism, as seen in the light of the gasoline engine analogy.

In order to simplify the presentation and avoid introducing unnecessary and confusing detail, the flow chart has been prepared on the basis of net flow; that is, the total forward flow less any transactions in the reverse direction. For like reasons, transactions involving the production of intrinsic money (primarily gold) or its reconversion to use as an ordinary article of consumption are considered as having two separate aspects, one affecting the goods stream and the other the money stream. From the first standpoint, gold mined and devoted to monetary purposes is simply produced and utilized (consumed) in the same manner as any other long lived goods. On the other side of the picture, this action constitutes a withdrawal from a money reservoir to swell the current purchasing power stream. The reservoir will be refilled when and if the gold is returned to industrial use, is lost (as in the sinking of a ship), or is demonetized.

The means that have been used to portray these transactions on the flow chart in the most convenient and understandable manner do not involve any unsubstantiated assumptions or any deviations from the truth. There is only one truth, but there are many alternative ways of depicting it. By the use of a similar convention it is possible to represent all stages of economic organization on this one flow chart. All that is necessary is to consider the more advanced elements of the modern mechanism as having been potentially present all the time (which is true) but inoperative in the more primitive stages.

On this basis, the first stage finds labor entering the system, joining with the services of capital, and flowing through the inoperative production market to the production process, where the conversion

to goods takes place. These goods then go directly to consumption through the similarly inoperative goods market, with the diversion of a portion of the stream to capital taking place as in the modern system. The second stage activates the goods market, which now converts goods (purchasing power) into goods (articles of consumption). In both or these simple types of organization the auxiliary purchasing power circuit is dormant.

The third stage introduces money, a medium of exchange. This activates the circulating purchasing power circuit and also results in a separation between producer and consumer in the goods market. The producer exchanges goods (purchasing power) for money, which passes through the inoperative production market into the hands of the same individual in his capacity as a consumer. He then completes the cycle by exchanging the money for goods (articles of consumption) in the consumer section of the goods market. The fourth stage activates the production market and thereby effects a complete separation of producer and consumer.

This accurate representation of all stages of economic organization on one simple chart is possible only because of the fact that the primary objective of economic activity and the basic processes through which this objective is reached never change. Economic development is evolution, not revolution. This is no accident; it is true because the natural laws that govern economic processes are fixed and immutable. The same principles that determine the course of events in the most highly developed economy are equally valid, to the extent that they are applicable, to the simplest types of economic organization. Man may change the form of his economic institutions, but he cannot alter the basic principles that govern his struggle to make a living. The relations indicated by the economic flow chart are broad generalities entirely independent of the type of economic system in vogue or the nature of the medium of exchange, if any. They are equally correct whether trade is carried on by means of barter, by Federal Reserve notes, or by pieces of eight.

## CHAPTER 9

# The Markets

In the earlier stages of economic development there was only one kind of market: a place where goods (purchasing power) were exchanged for money or goods (articles of consumption). Such a market also plays a major role in the fundamental economic transaction in the modern world. It is in this *goods market* that the present-day consumer exchanges money for goods and the producer exchanges goods for money. But the remainder of the exchange cycle portrayed in Fig. 1 is carried out in an entirely different market, one in which goods do not participate at all. Here the worker and the supplier of capital exchange labor and the services of capital for money and the producer exchanges money for labor and the services of capital.

Since the entire flow of circulating purchasing power passes through both markets, it is apparent that this second market is fully coordinate with the goods market in the operation of the system. Functionally, however, it occupies a position in the economic mechanism that is the inverse of the position of the goods market. The "real" wage rate, the price of labor in terms of goods, is the reciprocal of the "real" market price level, the price of goods in terms of labor.

It takes no more than these few brief comments to emphasize the importance of the new market that has emerged as a component part of the fourth stage economic system, but it is only comparatively recently that the true relation between the two markets has begun to be understood. Some of the early constructors of price indexes, for instance, recognized that the price of labor must be taken into account in some manner, and they tried to include it in their indexes, but the way in which they went about this indicates that they had no more than a hazy view of the true situation. Carl Snyder, one of the price index pioneers, adopted a 15 percent weighting for labor and

5 percent for rents, leaving 80 percent for items handled through the goods market.[50] These figures give us an insight into his evaluation of the relative importance of the two markets, as well as indicating his opinion that the labor price enters into the determination of the general price level in the same manner as the goods price.

In reality, however, there are *two* price levels, not the single one that Snyder and his fellow index-makers were trying to measure, and the relation between the price level in the goods market and the price level in the production market is one of the vital factors in the operation of the economic machine. Even without the benefit of any detailed consideration it is apparent from the reciprocal relation between the two markets that it is the *relative* price level that is most significant, not the absolute level in either market. From the consumers' viewpoint, a rise in prices in one market is equivalent to a fall in the other, and any change which affects both equally is no change at all.

In any case such as this where one quantity is, in effect, the reciprocal of the other, it is possible to express all variability in both quantities in terms of either one or the other; that is, we can compute one index and let it do the work of two. The present practice is to set up an index of goods prices – a cost of living index, a construction cost index, or something of the kind – and then to use this index not only as an indication of the goods price level, but also, by relating wages to a constant goods price level, as an indication of the level of *real wages,* the wage level in terms of goods. The opposite procedure is equally possible; that is, we can compute what we may call *real prices,* the market prices in terms of labor. But such figures have less practical utility, and are seldom used except in comparisons between different national economies, where a statement as to the number of hours it is necessary to work in each country to earn the price of a particular commodity is more impressive than any comparison expressed in purely monetary terms.

The present-day computations of the price levels are mathematically sound (aside from what seems to be an unavoidable degree of inaccuracy), and are undeniably useful for many purposes. However, the concentration of attention on the goods market has had the effect of obscuring the very significant role that the production market

plays in the economy. This is all the more unfortunate because the markets are affected by different influences and do not respond to changing conditions in the same way. The most striking differences are due to the fact that the production market and the production process are located at the head end of the main economic stream, and it is here, and only here, that the streams of economic activity are subject to deliberate control. The *volume* of production can here be adjusted to whatever level seems appropriate, and once this decision (in practice, the sum of many individual decisions) is made, the volume of goods flowing to the markets is fixed, except for the minor effect of goods storage. As brought out in the discussion of the cooling system analogy in Chapter 8, the *production price,* in monetary terms, is also subject to arbitrary control, and once this price is established it determines the normal flow of money purchasing power in the entire auxiliary circuit.

The economic location of the markets also has an important bearing on the way in which each market responds to any variation in the flow of money purchasing power. The production market transaction takes place *before* the act of production, whereas the goods market transaction takes place *after* production, This means that the response to a change in the flow of money entering the production market can be either a price change or a volume change, as long as the necessary labor is available, since the volume of production has not yet been determined, whereas a similar change in the amount of money entering the goods market can only affect the price, except to the minor extent that storage of goods is feasible.

In this connection it should be noted that the role of goods storage in the operation of the system is almost negligible in comparison with the total volume of production. Services cannot be stored at all, some goods are perishable, others are too bulky, others can only be produced as ordered, and so on. Furthermore, storage is costly. The net variation in business inventories from year to year, aside from the effect of changes in the price level, is seldom more than about one percent of the total national product. In the subsequent discussion the effect of goods storage will be noted at the appropriate points, but for most practical purposes this factor is not significant, and can be disregarded.

Before proceeding farther it may be helpful to elaborate to some extent on the differentiation between the goods market and the production market. We are accustomed to classifying goods into various categories, such as those previously mentioned, durable or transient, consumer goods or producer goods, and so on, and we speak of the goods market, the investment market, etc. For some purposes we even go still farther and distinguish between the potato market and the prune market. But such distinctions are not fundamental. From the broad general viewpoint these markets are all part of the same thing. The money available for the purchase of potatoes can just as well be used to buy prunes, or durable consumer goods, or the capital goods that we classify as investments. But money already in the hands of consumers *cannot* be used in the production market to buy labor of the services of capital. Before this can happen, the money must get into the hands of producers. Likewise, money in the treasury of the General Motors Corporation is *not* available for buying Chevrolet cars, or any other consumer goods, until after General Motors has paid it out, directly or indirectly, through the production market in exchange for labor or the services of capital. The distinction between the goods market and the production market *is* fundamental, and purchasing power available for use in one market stands in an entirely different relation to the economic mechanism than that which is available for use in the other market.

As noted earlier, one of the far-reaching consequences of the addition of the production market to the exchange mechanism has been the transformation of economic activity from an intermittent process to a continuous process. In the earlier stages of economic development the market transactions were mostly intermittent. The small farmer, whose operations are typical of the third stage cycle, carries on his activities over a long period of time. He prepares the soil, plants his crops, cares for them during the growing season, and finally harvests them. After this long period in which no marketing has taken place, he sells his products and then starts production again. Since the marketing transaction is the source of the farmer's income in his capacity as a worker, there are long intervals during which he is receiving no payment for his labor, and that payment, when received, is usually directly related to the amount of production that has been accomplished.

On the other hand, in the modern fourth stage cycle, where labor is marketed directly in a separate market, there is a steady flow of purchasing power to the worker. Even the person whose salary is nominally on an annual basis receives a pay check once or twice a month. This means that there is a never-ending drain on the producer's funds, and as a practical matter of self-defense the producers have so organized their operations that they have a continuous flow of income with which to meet this continuous outlay. But they are now faced with a never-ending task, that of maintaining this flow of income at a high enough level to sustain the current rate of expenditures. This is their primary concern in the operation of their respective enterprises.

The producer of the modern type is not particularly interested in the relation between the actual cost of production of a specific item and its selling price. Usually he will not even know that cost if any substantial time has been involved in the production process. His concern is with the *current* cost, a composite figure which he reaches by summing up the present cost of each of the separate operations involved in production of the item. If a product can be sold at a price of $1.00 per unit, and the current cost is under this figure, the producer will not shut down his plant simply because the stock on hand actually cost $1.50 each. Likewise, his calculations for the future are not based on a comparison of present production costs against present selling prices, but on his forecasts of future costs against future selling prices.

The usual economic analysis proceeds on the assumption that the producer starts from zero, that he makes a certain advance outlay for labor, capital, and materials, and that he endeavors to sell his finished products for a price which will reimburse him for his actual expenditures and in addition will give him a satisfactory rate of return on the capital that has been invested. This is a reasonably accurate picture of the situation in the third stage economy, where the producer sells the products of his own labor, but the modern fourth stage organization which sets the pattern for our present-day economic life is a going concern, a continuous operation which has no zero point. It is true that when an enterprise is first launched a certain amount of expenditure must be made to build an inventory of raw materials and goods in process, and also a working stock of finished goods, before income from sales begins to flow in, but the producer does not expect

repayment of this expense from sales as long as the business stays alive. He sets this amount up on his books as *working capital,* and from his standpoint it is the equivalent of a like amount of the fixed capital that is invested in plant and equipment.

What the modern producer expects the income of his enterprise to do is not to reimburse it for *past* expenses, but to meet *current* expenses, including satisfactory earnings on the invested capital. If the operating income for the current month or the current year is sufficient to take care of operating expenses and fixed capital charges, including depreciation, and to leave a reasonable amount for the owners of the equity capital, the operations have been satisfactory, and the business can continue on the existing basis. If current income is more than adequate for these purposes, consideration can be given to reducing prices or increasing wages. If it is less than adequate, attention must be given to means of increasing income or reducing expenses.

These facts are commonplace. Everyone who has had anything to do with organized business affairs is thoroughly familiar with them. To be sure, there is still a substantial volume of production being carried on by individual farmers, shopkeepers, professional people, and others who operate under third stage conditions, but it is the business enterprise that *employs* labor that dominates present-day production, and it is this fourth stage mechanism that we must analyze in order to get an accurate picture of the modern economy. Even though the basic principles remain unchanged, we must nevertheless study the details of the processes that are in actual use today; we cannot solve today's problems by studying the processes that were in vogue in the days of the feudal barons.

In the modern economic world the leading role is played by the *corporation,* a device which has enabled a definite physical separation between producers and consumers. All corporations are producers pure and simple; their only function is to produce and they take no part in consumption. It is true that they use certain goods in the course of their activities, but this is part of the productive process. It is an element in the production of other goods, and does not constitute consumption as the latter term has been defined for the purposes of this analysis. The essential difference from an analytical standpoint is that

utilities are not destroyed when goods are used in production as they are when the goods are consumed. They are transformed into utilities of a different kind. The volume of production that can be attributed to any producer is the net amount after subtracting the value of the goods used or wasted in the production process: the "value added" by production, as the statisticians call it.

Individual producer-consumers, in their capacity as producers, are subject to the same considerations. Producers, corporate or otherwise, are merely intermediaries by means of which the labor and capital furnished by the workers and suppliers of the services of capital are converted into goods for the benefit of those individuals, in their capacity as consumers. All goods produced by the economic machine must go to consumers, either directly of in an indirect manner by contributing to the production of other goods. All of the instrumentalities of production come to the producer from individuals in their capacities as suppliers of labor and capital; all of the proceeds go back to them. The net result *to the producer* is zero.

This kind of an equilibrium relation, the knowledge that certain quantities always add up to zero, is one of the most powerful tools of mathematical analysis, and in view of the importance of the point just brought out it is desirable to express it as another of the fundamental principles of economic science.

> **PRINCIPLE V: The income to the producer from goods produced is exactly equal to the expenditures for labor and the services of capital. The net result to the producer is zero.**

In order to get a clear picture of the basic relations and the application of Principle V it is necessary to differentiate clearly between the producer (corporate or otherwise) and the supplier of capital. These are two separate and distinct economic entities, even though they may often be combined in a single individual. There are many persons who furnish capital for a productive enterprise and also direct the productive activities, but in so doing they are performing two separate economic functions, just as the farmer is both a producer and a consumer. All that has been said with respect to corporations also applies to these individuals in their capacity as producers. As suppliers of capital, however, they stand in the same relation to the economic system in general as the suppliers of labor.

Here is another significant truth that has been covered up by the confusion and complexities of modern economic life. All income received by producers of any category, over and above the cost of goods purchased from other producers, is paid out to, or credited to the account of, the suppliers of labor and the services of capital. All payments are made in the same kind of money, all go to persons whose intention is to use them sooner or later for buying goods in the markets (this is equally true whether earnings on capital are paid out in dividends or "plowed back" into the business), and there is no way by which we can differentiate between wage dollars and interest or profit dollars once they are in the hands, or the accounts, of the recipients.

There is one school of thought which insists that it is wrong to permit any payment to individuals for the services of capital (except perhaps interest, which for some strange reason does not seem to be quite as reprehensible as rent or profits), but questions of right and wrong, in the moral sense, are beyond the scope of economic science, and of this work. As long as payments of this nature are being made, we cannot get a true picture of economic conditions if we ignore them, or allow sentiment or prejudice to cloud our vision so that we fail to see them in their proper setting. The objective of the present inquiry is to determine the facts, the true relation of these payments to the primary economic processes. From this standpoint the answer is clear. A dollar paid for the services of capital has exactly the same economic status as a dollar paid for labor. So far as the general operation of the economic system is concerned, labor and the services of capital are equivalent items.

One point worthy of special attention is that the owner of capital *retains ownership* and does not surrender it to the producer. He merely sells the services of this capital just as he sells labor, his personal services. Ultimate ownership of capital always rests with individuals. From the standpoint of the corporation, the entire net worth of the business, including undivided profits, is a liability, an amount which the corporation owes to its stockholders, and the books of the corporation so indicate. Hence investment is purely a consumer function. The cost of capital improvements always comes out of funds belonging to individuals. It is immaterial, from this

standpoint, whether the money is actually paid out to the stockholders and reinvested by them, or whether the producer uses it directly for the increase of capital (plows it back into the business, as commonly expressed) or builds up reserves of marketable assets to help bridge over difficult times. In the investment of surplus corporate funds the officers of the corporation are performing the functions of a trustee, acting on behalf of the actual owners of the funds.

Many economists are inclined to regard corporate reserves as quite distinct from consumers' assets, apparently because the individual stockholder, in most cases, has little voice in the determination of policies with respect to the accumulation and utilization of such reserves. This present analysis, however, is concerned with the facts, not with mental reactions, and from a purely factual standpoint there is no difference between capital deliberately invested in a business and capital involuntarily invested when a corporation builds reserves of one kind or another. The effect of an action is determined by the nature of the action that is taken, not by the nature of the influences that caused it to be taken.

It is true that corporate reserves are more readily available for meeting operating requirements, as distinguished from needs for additional capital, than funds which have already been paid out to the stockholders as dividends, and to that extent these reserves have the status of producer money reservoirs. However, the stockholders own the funds in these reservoirs just as they do all other assets of the corporation, so these funds have the same economic status as any other capital assets.

After the current expenses of an enterprise, the amounts owed to other producers for materials and services, the cost of labor, the cost of capital employed on a time basis, taxes, and various miscellaneous items have been paid, and reserves have been set aside to cover depreciation and other deferred liabilities, any amount remaining out of current income is added to the earned surplus of the corporation, one of those corporate assets which, as has been pointed out, are owned by the individual stockholders of the corporation. This addition to the earned surplus, the *net profit* for the current period, is the compensation for the services of capital supplied by the stockholders, irrespective of whether or not it is currently paid out in the form of dividends.

Here is one of the many places where the injection of sociological viewpoints and prejudices into economic thought has had a serious effect in confusing the issues. The economic theorists exhibit a curious reluctance to classify profits in accordance with their true economic function as a "wage" of capital, a payment for useful services rendered by capital goods, and a strange assortment of doctrines has been advanced, ranging all the way from the absurd contention that profits (at least the so-called "pure" profit, any excess above the normal interest rate) are an unearned and unjustified charge against the general economy to weird theories which are based on the assumption that profits are abstracted from the circulating money stream and are not available for consumer buying.

The truth is that profits are the price of junior capital (risk capital) in exactly the same way in which interest is the price of senior capital (debt capital). Those who accept interest and condemn profits and the "profit motive" are allowing their sociological prejudices to lead them into a flagrant inconsistency. Neither capital nor any other form of wealth is essential to life, but wealth does enable us to live a more pleasant and comfortable life, and all forms of wealth therefore have economic value. Thus the cost of using capital cannot be escaped any more than the cost of labor can be avoided. This is just as true under socialism, or any other collective economic system, as it is in the United States today. Turning to a collective economy eliminates the name "profits" but nothing more. Those who favor collectivism because they are opposed to profits are closing their eyes to the economic facts, as the cost of the services of capital still has to be met under some other name. We cannot evade that inconvenient ban on "something for nothing" that stands in the way of so many ingenious schemes.

Under many circumstances there is no actual payment for the capital or other wealth that is utilized, and in such cases the existence of the cost factor is often overlooked. The man who has paid $100,000 for his house may be inclined to feel that he can now enjoy its use without cost, since no further payments have to be made, but this individual is simply deceiving himself. If his $100,000 were not tied up in the house he could invest it in something that would give him an income of at least $6.000 per year, and forfeiting this income is just as real

a cost as the amount that he would have to pay in rent if he did not own his home. A state-owned industry that has built a million dollar plant is in exactly the same position. The million dollars invested in the plant would have earned $60,000 or so annually if the money had been put to use elsewhere. The cost of having this much capital fixed in the new plant is therefore about $60,000 per year, regardless of the fact that the collectivist system of bookkeeping requires no actual payment or recording of the amount. As long as the productive capacity of the human race is finite, the services of wealth have an economic value, and there will be an equivalent cost attached to the use of wealth as capital.

The use of money as a measure of value does not affect the situation one way or another. Those economists such as Schumpeter, who contends that "in a communistic or non-exchange society in general there would be no interest as an independent value phenomenon" ("The agent for which interest is paid simply would not exist in a communistic economy,"[51] he says) are being confused by the money aspect of interest payments to the point where they are mistaking the bookkeeping for the essence of the phenomenon itself. Schumpeter's assertion that "interest attaches to money and not to goods"[52] is totally wrong. Interest, rent, and profits are payments for the services of wealth, and whether they are paid in money, or in goods, or in the loss of services that would have been enjoyed if the wealth were otherwise utilized, is merely a detail. As Frank Knight pointed out, "A moment's reflection on the Crusoe situation should make it clear that a purely monetary theory of interest is simply nonsense."[53] Neither the communists nor the Crusoes can have the services of wealth free of charge.

Here, again, those who have centered their attention on the *social forms* rather than on the *economic functions* have been misled by what they see. If we look at activities involving the use of capital from a purely economic standpoint, and avoid differentiating between actions that are economically equivalent, we get a totally different picture. Let us consider a typical example of a capital investment. An engineering firm designs an improved type of oil refinery, and offers a "package" deal whereby it handles the entire construction and delivers the complete unit at a fixed price. Each prospective purchaser then

faces only the problem of how to raise the necessary capital, and each proceeds in its own way to do so. Company A issues bonds for the purpose and thus *borrows* the money from the individual purchasers of the bonds. Company B elects to use a method of financing that is currently popular. It arranges with an insurance company to build and own the plant, and it then *leases* the plant on a long term basis. Company C finds that it has sufficient reserves to enable paying for the plant out of its own treasury. Across the international border in socialistic state D the government *taxes* its citizens to raise the necessary capital.

Now let us look at these transactions from a purely economic standpoint. First, we find that is all cases the capital comes from *individual suppliers.* In case A it comes from the individuals who are now *bondholders*. In case B it comes from funds belonging to the individual *policyholders* of the insurance company (assuming that it is a mutual company). In case C it comes from the individual *stockholders* of the company, who own all of the assets of the company, including the cash reserves. In case D it comes from the individual *taxpayers.* In all cases the cost to the individual suppliers of capital is the same; they must forego whatever gains or satisfactions they would otherwise have obtained from the use of the money elsewhere.

Next we note that in all cases the individual suppliers retain *ownership* of the capital. The bondholders in case A merely *lend* their money. The insurance company policyholders in case B own the plant after it is built, and so do the stockholders in case C. In the state of D, the ownership is theoretically vested in the citizens of the state, but since we can, in general, equate citizens with taxpayers, particularly in a collectivist economy, where a large part of the taxation is concealed and broadly based, the taxpayers own the plant for which they have supplied the capital.

Finally, we can see that in all cases the individual suppliers of capital expect to be *compensated* by the production agency for the use of their capital. In case A the bondholders receive *interest.* In case B the policyholders (owners) of the insurance company receive *rent.* In case C the stockholders of the company receive *profits.* In case D the citizen taxpayers also receive the residue after other production

expenses have been met – what we call profits in the individual enterprise economy – but they do not recognize them under that name, because the payment is indirect and not clearly identified as to it origin. The profits in this case are either returned to the general funds of the state, in which case the individual citizens benefit by being assessed less taxes than would otherwise be necessary, or they are used for other capital requirements, or they are distributed to the citizens in the form of lower prices.

It is then evident that we can describe the general economic process involved in all four cases in exactly the same words:

> **The production agency obtains labor and the services of capital from individual suppliers, utilizes them to produce goods, and with the proceeds thereof compensates the suppliers of labor and the services of capital for the services utilized.**

From the economic standpoint, the general process is the same in all of these cases; whatever differences may exist are in the details. The important conclusion to be drawn from this identity, so far as the point now at issue is concerned, is that the payments made by the production agency – the producer – to the individual suppliers of capital have identically the same function in all cases. They are nothing other than compensation for the services of capital, regardless of whether we call them interest, rent, or profits, or bury them under some vague classification of socialistic benefits. The economic *purpose* of the payment is the same in all cases; the only difference is in the *basis* on which the payment is made. *Interest* is related to the *amount of capital* that is supplied, *rent* is related to the *specific capital goods* that are furnished, and *profits* are related to the *output* of the production process.

Essentially the same situation exists with respect to the labor payments. All such payments are made for the same economic *purpose* – as compensation for services – but there are differences in the *basis* on which payment is made. Some payments are made on a *time basis* – daily or hourly wages, monthly or annual salaries, etc. – while others are made on an *output basis;* that is, at a certain rate per output unit. In industrial production this is called a "piecework" rate. Elsewhere such terms as "royalty," "fee," or "commission" are used. Work such as that performed by authors or inventors is

mainly handled on the value output basis, since the commercial value of the product has little or no relation to the amount of time spent in producing it. There are even cases where the price to be paid is established on a *contingent* basis, so that no payment at all is made unless certain specified results are achieved.

Just why the economists have been unable to see that profits are the piecework or royalty rate of payment for the services of capital is a mystery of the first order. They all recognize that labor is paid either on a time basis or on an output basis, and they recognize that interest and rent are payments for the services of capital on a time basis. The existence of payments for the services of capital on an output basis would seem to follow almost automatically, and it should not take any great perspicacity to see that profits are payments of this kind.

Furthermore, it is generally conceded that the average percentage return on invested capital is approximately the same whether it is received in the form of interest, rent, or profits. Schumpeter, for instance, refers to "the phenomenon observed by theory from time immemorial, that all returns in the economic system, seen from a certain aspect, tend to equality."[54] It seems almost incredible that such an obvious clue to the true nature of profits should have been ignored, but the economists' own admissions show that they have looked the situation straight in the eye and have still been unable to see profits in their true perspective. Fraser, for one, simply does not see the analogy between piecework rates and profits. "In practice," he says, "the distinctions between time rates and piece rates are only important in the case of incomes from labour. Property incomes are regularly calculated in relation to time, not to services rendered."[55]

Once again, the sociological fixation to which the economist is subject prevents him from seeing the economic facts. He cannot see profits in their economic setting because, under the conditions now prevailing, a substantial part of the total paid out as profits accrues to the benefit of a *social class* with which he is not in sympathy. As a result of this social viewpoint, or more accurately, these social viewpoints, since the sociological picture of the constant economic reality necessarily changes every time social practices and institutions are modified, the socio-economist is unable to recognize the economic fact that profits are simply one of the alternative methods of paying for the services of

capital, a method in which, with all due respect to Fraser's statement to the contrary, the amount of payment is "calculated in relation to services rendered."

Where there is no emotional factor involved, the present-day economist is able to get a clear picture of the payment situation, and he is able to recognize that piecework rates for labor are payments for services rendered, and that they differ from daily or monthly rates only in the basis of calculation. No one even so much as suggests that the difference between the piecework rate and the time rate has any theoretical significance, and no one contests the assertion that any excess of the piece rate above the hourly rate is just as much a payment for labor as the hourly rate itself. When he turns to a consideration of the analogous payments for the services of capital, however, the same economist sees the situation through the haze generated by his sociological prejudices. Since he has a strong emotional antipathy to large profits, he does his best to set up a theoretical classification in which any excess of profit above the current interest rate, "pure profit," as he calls it, becomes some kind of an unjustified charge against the economy, rather than a legitimate payment for services performed.

"The economic system in its most perfect condition should operate without profit." says Schumpeter, "profit is a symbol of imperfection."[56] This statement refers, of course, to the economists' "pure profit," and what Schumpeter is saying, in effect, is that under the optimum conditions there can be no reward for assuming the risks involved in operating a business enterprise. But the very essence of the prevailing economic system, the factor that is mainly responsible for its unparalleled record of achievement, is that it rewards the efficient and penalizes the inefficient. Inequality of earnings is not a "symbol of imperfection," it provides the incentive that assures productive efficiency. The whole concept of "pure profit" should be dropped from economics. In application to genuine economic issues it leads to nothing but such unrealistic conclusions as the one of Schumpeter's just cited. The only real purpose that it serves is to create an opening for the introduction of sociological viewpoints into economic reasoning.

It is recognized by many of the economic theorists that the unrealistic theories of profits which the profession has developed are not satisfactory, even though they continue to cling to them. Fraser tells us that "the theory of profit is by common consent the most recalcitrant element in the whole structure of value and distribution analysis."[57] His use of the word "recalcitrant" in this connection is highly significant. Of course, he really means that *the established facts* are recalcitrant; they stubbornly refuse to fit the theory. A continuing conflict of this kind exists wherever theory constructors try to force the facts to conform with some preconceived ideas of their own, and the "recalcitrance" of the economists' theory of profits is simply a result of their insistence in having a theory which portrays profits in an unfavorable light. This antagonism is not based on economic grounds; it is sociological. And, as Lloyd Reynolds comments, the form in which the attack on profits often takes "arouses a suspicion that the critic has not thought through his position."[58]

## CHAPTER 10

# Price Levels

The subdivision of physical science known as *mechanics* is customarily separated into two parts. First the student of the subject is introduced to *statics,* which is devoted primarily to the effects of the application of forces to bodies at rest. Then he goes on to *dynamics,* in which he studies the effects of forces on bodies in motion. In general, he finds that the conclusions drawn from the static principles are not applicable to the dynamic situation. A static balance, for example, does not necessarily indicate a dynamic balance. In order to arrive at the right answers with respect to the dynamic system he must study it as a system in motion, not as a system at rest, and he must apply dynamic principles rather than static principles.

An important point that is emphasized by the scientific analysis of the factual aspects of economic life whose results are reported in this volume is that the modern economic system is a dynamic mechanism, a continuous flow process, while the analytical methods that have usually been applied to the study of economic problems have treated each individual item on a static basis, without adequate consideration of the relation of this item to the flow pattern of the system as a whole. The application of supply and demand theory to a determination of the general price level, for example, is a case of applying static methods to a dynamic problem. As previously mentioned, it gives completely erroneous answers to some of the most significant questions that arise in connection with the price situation. A distinction between static and dynamic processes is frequently made in economic literature, but this is something of a different nature. In the economists' terminology, the expression "dynamic" is employed with reference to conditions in which the controlling elements of the static process are variable. As explained by Simon Kuznets:

> Static economics deals with relations and processes on the assumption of uniformity and persistence of either the absolute or relative economic quantities involved. In contrast, dynamic economics deals with relations and processes on the assumption of change in either the absolute or the relative economic quantities.[59]

Another author puts the case in this way:

> "Dynamics" now denotes analysis that takes explicit account of temporal leads and lags in economic relationships...as against "statics" in which all the variables refer to the same point of time.[60]

In this present study it has become apparent that fourth stage economic activity is characteristically a thing in motion. Some of its elements are not directly affected by time, but on the whole, fourth stage economic life is a continuous flow: a ceaseless progression down the corridors of time, not a stationary entity that can be analyzed on a static basis, irrespective of whether or not the analysis is modified to allow for "leads and lags." Most of the basic components of modern economic activity that are customarily visualized and treated independently of time are in reality dynamic entities that can be properly understood and appreciated only if they are studied as moving, working parts of an operating mechanism. In this work the motion – the continuous flow – is recognized as the essence of present-day economic life, and the term "dynamics" is used in the sense in which it is defined in the physics textbooks: "Dynamics is the study of motion in terms of the forces that produce it."

To the economist who believes that he is already using dynamic methods, and to many laymen who are not familiar with mechanics, the distinction that has been drawn between the economists' concept of dynamic processes and the scientific sense in which the term is employed in this present work may not seem very significant. However, the inadequacy of the economists' "dynamics" has been stressed by many observers, even within the economic profession itself. Frank H. Knight, for instance, pointed out years ago that "what it (the economic profession) calls dynamics should be called evolutionary or historical economics."[61] He emphasized the need for a real dynamics. "The crying need of economic theory," he insisted, "is for a study of the "laws of motion," the *kinetics* of economic changes."[62]

The difference between the two concepts – the economists' dynamics and the scientists' dynamics – can be illustrated by consi-

deration of the forces acting on, and in, a pipeline filled with water. If the line is closed at both ends and left undisturbed, we have a static situation, one in which the various forces acting upon the water and upon the pipe are constant in magnitude, and can be identified and measured independently of time effects. Then, if we connect one end of the pipeline to a reservoir in which the water level varies from time to time, we have the equivalent of the economists' "dynamic" situation. At any specific moment of time the pipeline and its contents are subject to the same kind of forces and stresses as in the constant static situation, and while a few minor and incidental phenomena – shock waves, for instance – may be introduced, the only major difference is that the physical magnitudes involved are altered whenever the fluctuations in the reservoir change the pressure head acting on the pipeline.

If we now open the other end of the pipeline and allow the water to *flow* through the pipe, the result is something of a totally different nature. The phenomena that are now of greatest concern to us are such items as pressure gradients, rates of flow, friction factors, etc., which were totally absent from the static picture. Here is a true dynamic situation, one which is not in any sense a static situation modified by the introduction of variable magnitudes and by corrections for "leads and lags," but a totally different set of phenomena. Our analysis indicates that modern economic life is analogous to this latter situation, and the primary concern of this work is with what Knight called the "laws of motion" or the "kinetics" of the economy.

The foregoing reference to a "continuous" flow in the streams of the economic system does not by any means imply a *steady* flow. On the contrary, most of our attention will necessarily have to be devoted to the variations in the rates of flow, since it is these variations that introduce problems into economic life. But it is important to realize that the phenomena with which we will be dealing are actually fluctuations and irregularities in a continuous flow process, not independent entities that we can examine and manipulate in isolation.

In this present chapter we will apply this dynamic concept of the nature of the economic mechanism to the determination of price levels and some related economic quantities. It is evident to begin with that man's economic endowment – his potential labor and his

leisure – come to him as a continuous flow, not as an aggregate or a series of aggregates. The arrival of today presents each individual with the potential of a day's work which he may put into the economic system in exchange for the benefits that may be derived from such labor. But if he does not choose, or is not allowed, to convert this potential labor into actual labor today, he cannot do so tomorrow. Unless today's potential is realized today, it is gone forever.

Similarly, the benefits of economic activity must come to him essentially in a continuous stream. So far as the basic needs of life are concerned, there is little more leeway than in the utilization of labor. Food must be supplied continuously, otherwise the individual ceases to exist. Clothing and shelter must likewise be available every day if they are to serve their purpose. There is no value in having warm and comfortable facilities available tomorrow if we freeze to death today. After the necessities are provided for, it is in theory possible to take delivery of the additional goods in larger aggregates rather than as a continuous day to day flow, but in actual practice a certain *standard of living* is established by each individual or family, and this standard of living takes the place of the bare necessities as the level beyond which diversion of some of the flow of goods from immediate use becomes possible. Since there is strong pressure for the standard of living to approximate income, within the range of income of most persons, only a small percentage of the population is able to get very far away from the immediate use of all income, even in the wealthiest countries. Thus the consumption of goods is essentially the same kind of a continuous process as that which provides the potential supply of labor for the production of those goods.

As brought out in Chapter 9, the evolution of the economic organization has taken place in the direction of accommodating the mechanism to this need for a continuous output of goods, and the modern fourth stage economy is definitely a continuous flow process, a true dynamic operation. Th basic elements of the process, as shown on the economic flow chart, Fig.1, are the stream of goods flowing from production to consumption, and the auxiliary stream of purchasing power flowing in a closed circuit. Goods and purchasing power are both conserved, as is money, although the ratio of money to purchasing power may vary. We are therefore able to treat both

streams by the same specific and precise techniques that are applied to the flow of physical substances in scientific and engineering practice.

Availability of these accurate methods of procedure is particularly helpful when we undertake to analyze price relations. The present-day theoretical approach to price problems is almost entirely from the direction of supply and demand. But to anyone accustomed to dealing with quantities that "stay put," demand is a highly unsatisfactory subject for analysis. The fact that it is not conserved makes accurate results impossible. Furthermore, the real demand, the quantity of goods that consumers are able to buy at a given price cannot be increased in any other way than by increasing production. (Principle I). The measures that are taken to "stimulate demand" are thus nothing more than devices to produce inflation of the price level. They will be examined in more detail later.

Purchasing power is usually treated rather cavalierly in modern economic analysis. When it is introduced at all it is regarded merely as an antecedent of demand, and the analysis proceeds on the basis of the latter. But it is evident from the points brought out in the discussion in the preceding chapters, and from an examination of the economic flow chart, that the flow of purchasing power is not only a vital element in the modern fourth stage economic organization, but is also susceptible to accurate analysis because it is conserved.

As noted earlier, the conservation laws, which tell us that certain quantities pass through the various processes to which they are subjected without change in magnitude, regardless of how much they may change in form, are some of the most useful tools for analyzing complex phenomena that the scientist has in his repertory. The law of conservation of energy, for instance, asserts that the energy leaving a process is exactly equal to that which enters, plus or minus the energy released from storage or stored during the process. By means of this law we can follow energy from one process to another, balancing our figures as we go, and verifying the accuracy of our calculations at every step. If we find a discrepancy, as we occasionally do, we do not waste time devising some ingenious theory as to why this process differs from all others. We start looking for our mistake, and we always find that there was such a mistake.

Purchasing power is an economic factor which, as indicated by Principle I, has a similar persistence. Hence we may extend the analogy and set forth a corollary to Principle I which will serve the same purposes as the law of conservation of energy. Since the circulating purchasing power is conserved, the flow through successive points along the stream cannot vary except in the way that the flow of energy can very; that is, to the extent that reservoir transactions take place along the route. We therefore have

> **PRINCIPLE VI: The circulating purchasing power arriving at any point in the stream is equal to that leaving the last previous processing point, plus or minus net reservoir transactions.**

This principle is valid in terms of real purchasing power as well as in terms of money purchasing power, but storage of real purchasing power can take place only by storage of goods, and consumer storage of goods takes place only to a very limited extent.

The average price in the goods market, by definition, is the quotient of the money purchasing power actually used in the market, the active purchasing power, we may call it, divided by the quantity of goods actually sold. This, the *market equation,* is a direct mathematical relation that holds good under any and all circumstances, with no ifs and buts to qualify it. By Principle VI, the stream of money purchasing power reaching the goods market is the stream that was created by production, with only such modifications as may have been caused by diversions from the stream to fill money reservoirs, or by withdrawals from those reservoirs to swell the stream. Thus the active purchasing power is equal to production, in terms of its money value, plus net consumer money reservoir transactions.

In the discussion of reservoir transactions we will treat a withdrawal from the stream (an input into a reservoir) in the algebraic manner, as a negative addition to the stream, avoiding the use of the expression "plus or minus."

The quantity of goods actually marketed is equal to production plus withdrawals from the goods reservoirs (producers' stocks). Substituting the foregoing expressions into the market equation that was formulated above, we find that *the average goods market price (the price level) is equal to production, in terms of its money*

*value, plus net consumer money reservoir transactions, divided by production, in terms of volume, plus net goods reservoir transactions.*

In accordance with the definitions previously stated, the word "production" is used in the general sense as the creation of utilities, and includes the activities involved in the distribution of goods and the rendering of services as well as the production of physical goods. The average price is the average number of units of money per unit of goods volume, regardless of the system of units that is used, and it covers all goods and services marketed, without distinction between capital goods and consumer goods. As should be clear from the context, however, it does not include the items that are handled in the production market: labor and the services of capital supplied to producers. It should also be noted that all of the foregoing discussion of the flow of goods and money refers to the *total flow.* The extent to which individual products and producers participate in this total is subject to some further influences.

Let us now examine some of the consequences of the relation expressed by the market equation. It can be seen that if there were no reservoirs, either of goods or of money, *no change in the general price level could originate in the goods market.* On first consideration, this observation may not appear to have any significance in application to real life, since there are reservoirs, both of goods and of money, and they play such an important part in modern economic life that their elimination is practically inconceivable. But even though we cannot eliminate the money reservoirs, it is definitely possible, and indeed relatively simple, to eliminate their *effects,* so far as the price level is concerned, by introducing oppositely directed reservoir transactions of just the right magnitude to counterbalance the net excess of input into, or output from, the uncontrolled reservoirs.

Thus, at this very early stage of our inquiry, we have already identified the means whereby the fluctuations in the general price level that originate at the market end of the economic mechanism can be eliminated. Various practical methods of accomplishing this result with a minimum of interference with normal economic relationships will be examined later.

Under present conditions, where no such control exists, there will necessarily be occasions when purchasing power is being withdrawn

from some money reservoir to swell the stream flowing to the markets. The first reaction to this will be a withdrawal from the goods reservoirs. This has the same effect on the markets as an increase in production, so it maintains the equilibrium between money and goods at the existing price level. But since the goods reservoirs are very small compared to the large money reservoirs, they are soon effectively empty, and the goods stream reverts to the volume of production. Then, unless the withdrawal from this money reservoir is counterbalanced by an input into another reservoir, the price level *must go up.* No other result is mathematically possible. Similarly, if the net reservoir transactions are in the other direction, prices *must* drop.

Before going farther, let us stop for a moment and consider the significance of the points that have been developed thus far in the discussion. We have set out to determine just why the market price is unstable. Previous investigators have given us an assortment of theories, but freely admit that none of them provides a satisfactory answer, and have not been able to arrive at any consensus. Now we have gone ahead with a factual analysis by scientific methods, and we hardly get started before we encounter some basic principles that clarify the entire situation.

We produce goods, and the exact amount of purchasing power required to buy those goods, simultaneously in a single operation. Production of goods and creation of purchasing power are one and the same thing. But we have translated the purchasing power into terms of money, and we have set up a series of reservoirs in the money stream between the production market and the goods market. By the use of these reservoirs we vary the money flowing to the goods market so that it is sometimes more than enough to buy all of the goods that are produced, at the full production price, sometimes less. But the flow of goods continues without change, except as modified by the relatively small goods reservoirs. So when excess money enters the markets, the ratio of money to goods (the market price level) increases. When some of the money in the circulating stream is being withdrawn to refill the reservoirs, the general price level drops

Many readers will no doubt find it difficult to believe that the answer to an important problem of such long standing can be so simple, but it does not take any complicated or intricate reasoning. The logic

is plain enough for anyone to follow, and the conclusions meet the ultimate and exacting test of science: they are consistent with all of the known facts. Accomplishment of these results in an area where theory has hitherto been confused and uncertain has been possible because the concept of reservoirs in the circulating money stream, like the concept of energy in physical science, enables us to recognize the equivalence, from certain standpoints, of apparently dissimilar phenomena, and to define their effects in that respect with precision, independently of any other aspects that they may possess.

The fidelity with which the reservoir theory conforms to all of the established facts concerning business fluctuations will be clearly demonstrated in Chapter 14, where the mechanism of the business cycle will be explained in detail. For the present it will suffice to point out that it is quite evident from the mass of business and monetary statistics now available that the booms and recessions that we have actually experienced have displayed exactly the same characteristics as the fluctuations which we can see must *inevitably* result from the presence of uncontrolled reservoirs in the circulating money stream.

A few more points in connection with the price mechanism should have some attention. The market equation demonstrates that, so far as the goods markets are concerned, *prices are not affected by the volume of production.* Any change in the volume of goods produced is accompanied by an equal change in the amount of purchasing power (both money and real) that is created. (Principle III) Since money purchasing power and volume rise and fall together, the quotient is not altered (except to the extent that the *relative* magnitude of the reservoir transactions may be modified). It should be noted that this does not mean that the volume of production is unaffected by price changes. That is another matter altogether, but it is outside the scope of the present discussion of the goods market price level, and it will be taken up separately.

Inasmuch as the modern fourth stage economic system operates on a dynamic basis, the significant economic quantities are the differential quantities, the rates. The magnitudes of the integral quantities, the accumulations at the various locations, are for most purposes irrelevant. The amount of money stored in the various reservoirs, for instance, has no effect on the price level, as a given rate of withdrawal

from a full reservoir has exactly the same effect as an equivalent rate of withdrawal from one that is nearly empty. In the latter case, the state of the reservoir has a bearing on how long that rate of withdrawal can continue, but as long as it does continue, the condition of the reservoir is immaterial.

This means, of course, that the quantity of money in the circulating system is completely irrelevant, except insofar as the *rate of flow* may be changed by some process that involves an input into or a withdrawal from this stream. This conclusion will no doubt be distasteful to those who look upon the "money supply" as the governing force in economic activity, but the rate of flow of money is the significant item, and this flow rate is not a function of the total quantity in the system, any more than the rate of flow of the water in the automotive cooling system is a function of the amount of water in the radiator. These facts are practically self-evident as soon as the characteristics of the money purchasing power flow are given a close examination, but in view of the large amount of attention that has been given to this question as to the effect of the quantity of money on the price level, this subject will be examined in detail in Chapter 15 in connection with a discussion of other aspects of money and credit.

Purchases of goods by producers for production purposes do not affect the general price level. Such purchases are simply exchanges at the same economic location, the same point in the mechanism. The total amount of goods in the hands of producers is exactly the same as before the transaction, and the same is true of money purchasing power. So far as the general situation is concerned, transactions between two or more individual producers have the same standing as transactions between departments of one large producer.

This is another fact that may be difficult for some of those accustomed to current economic thinking to accept. The statistical economist pays little attention to retail trade, other than in total, focusing his vision on wholesale transactions, and particularly on the organized commodity exchanges, where economic data are more readily available. This has fostered the impression that these wholesale transactions are the most important part of marketing. But it can easily be seen that the prices which are arbitrarily assigned for accounting purposes to goods transferred between departments in a single productive

enterprise have no important economic significance, and it is equally clear that from the general economic standpoint transactions between producers have the same status as these intra-company transactions. A railroad which mines and transfers coal from its mines to its railway is carrying out the same economic transaction as the railroad which buys coal from an independent producer. Here we again meet Principle IV. All producers are at the same economic location, hence transactions between producers or between departments have no effect on the flow of the economic streams, regardless of the volumes of goods involved or the prices at which sales take place.

At a given level of production, the basic factor which determines the general price level is not the price which one producer charges another, or the price which the producer of the finished product *attempts* to get from the consumer. The determining factor is the amount which the producers pay out through the production market for the labor and services of capital that they utilize. The total of these payments is the total money purchasing power generated at the production end of the economic mechanism, and, aside from the effect of the reservoir transactions, which balance out in the long run, it is the total purchasing power utilized in the markets. The quotient of the active money purchasing power divided by the volume of production is the general market price level to which the average of all individual prices must conform. If the prices that the producers try to establish exceed this level on the average, the producers that are in the weakest market position simply have to bring their prices down.

Here we can see the difference between the determination of the *general* price level and the determination of *individual* market prices. The general price level is determined in the production market, as the production price level is also the normal goods market price level, the level that exists in the absence of unbalanced reservoir transactions. The *relative* values of the various products are then determined in the goods market by supply and demand considerations; that is, the function of the price system in the goods market is to divide up the total incoming money among the various goods according to the consumers' preferences. It is commonly taken for granted that the prices of individual goods are determined by the interaction of supply and demand in the market, and that the general price level is the

average of these individual prices. But this is not the way that the system operates. The general price level is a result of a set of factors totally independent of the goods market.

The distinction between purchase of *producer* goods and purchase of *capital* goods should be noted. Producer goods, including materials purchased for use in maintenance and repair of capital equipment, are bought with funds that would otherwise be available for buying labor and the services of capital in the production market. The purchase of such goods is, in fact, merely an indirect purchase of labor and the services of capital, and the cost of these goods will be reflected in the selling price of the producer's products. But goods purchased as additions to capital assets are not bought with funds available for buying labor and capital services in the production market. They are bought with funds *that have already been used for this purpose,* and have been paid out, actually or constructively, to workers or owners of capital.

The accounting procedures that are prescribed for regulated enterprises such as the public utilities show this distinction very clearly. Producer goods – materials and supplies for use in operation and maintenance of facilities, raw materials for use in manufacture, etc. – are charged against the operating accounts of the enterprise, and the business is ultimately reimbursed for these costs in the sale of its products. But the regulatory authorities will not permit the enterprise to charge its customers a price that will recover any of the cost of capital additions, or will enable it to lay aside funds, other than reserves to cover depreciation and other deferred expenses, for future construction. If the enterprise wishes to expand it must obtain the necessary funds through investment channels, either by borrowing, by selling additional stock, or by persuading its existing stockholders to "plow back" some of the money that would otherwise be paid out in dividends.

Private sales between consumers (exchange of goods for money) or trades (exchange of goods for goods) are exchanges at the same economic location, and therefore have no effect on the streams of goods and money purchasing power, and no effect on the general price level. Examination of this situation on the basis of supply and demand is likely to lead us astray, but when it is analyzed by means of

the purchasing power relations the answer is clear and unmistakable.

Use of goods from consumers' storage likewise has no effect on the general price level, under normal conditions. This is another of the places where the supply and demand approach to economic problems is likely to be misleading. It is generally assumed that the consumption of goods withdrawn from consumers' supplies would reduce the demand for currently produced goods, and thereby lower prices. This could conceivably happen in the case of individual items. Consumers might, for example, decide to wear out the clothes which they already own rather than buying new clothing in the usual quantities, with a consequent detrimental effect on the clothing market. The purchasing power analysis shows, however, that this would not change the total amount of money purchasing power flowing to the market, and the decreased buying of clothing would be offset by increased purchases of other goods. The general price level would not be affected.

It is possible, of course, that money made available through sale or use of stored goods may itself be stored or utilized for debt retirement, in which case the final effect on the markets might be different. But this does not necessarily follow, and in any event the consumer's decision has no bearing on the result. If he decides to save the money rather than spend it, he deposits it in a bank, and the bank then lends it to someone else, who spends it. No input into the money reservoirs occurs unless *some other factor* causes the bank to add the money to its reserves instead of lending it to a customer. Such other factors are independent of the goods transaction and they will be analyzed separately. It should be noted in this connection that no assumption is being made as to what the ultimate result of the goods transaction will be. The point that is now being brought out is that use of supplies on hand does not *in itself* cause any change in the flow of purchasing power. Input into the purchasing power reservoirs, if it follows, *does* alter the stream flow, but the two matters have no essential connection with each other, and they are therefore being treated separately in accordance with the scientific practice which has been followed throughout the entire study.

Another example of a transaction between individuals at the same economic location is a shift of purchasing power from one group of consumers to another. There is one school of thought which holds

that the root of some of our present difficulty in maintaining a consistent high level of production is a maldistribution of purchasing power among the various economic and social groups. The present analysis indicates, however, that no economic benefit can be obtained by a redistribution of purchasing power. The general price level is determined by the total flow of money purchasing power into the markets, without distinction as to the source or as to the kind of goods purchased. Whatever instability of the price structure may exist is due entirely to reservoir transactions.

These proposals for redistribution of income have a great deal of support because they provide an apparent justification for taking from the "haves" for the benefit of the "have nots," but from the standpoint of the economic purpose which they are ostensibly designed to accomplish they are of no value. Our policies with respect to taxation and other factors which influence the distribution of income are far from perfect, and some modifications and improvements from time to time are undoubtedly in order. But these should be considered on their own merits, and not on the basis of their purely mythical contribution to economic stability.

The three important generalizations developed in the foregoing discussion may be summarized in the following principles:

> **PRINCIPLE VII:Except as modified by reservoir transactions, the purchasing power (money or real) available in the goods market is equal to the purchasing power expended in the production market.**
>
> **PRINCIPLE VIII:Any net change in the levels of the consumer purchasing power reservoirs results in a corresponding change in the money price level in the goods market, except insofar as it may be counterbalanced by a net change in the levels of the goods reservoirs.**
>
> **PRINCIPLE IX:The market price levels are independent of the volume of production.**

The principles that have been stated thus far, and those that will follow, are not all on the same logical level. For instance, Principle I is a statement of the basic fact of the conservation of purchasing power. Principle VI expresses the effect of this conservation on the flow in the circulating stream, Principle VII is a restatement of Principle VI in the form in which it is specifically applicable to the

determination of the price level in the goods market. Thus there is considerable overlapping and duplication in the list, but this appears to be necessary in order to accomplish the double purpose of defining the basic economic relations in the way in which they will be applied to specific situations, and at the same time indicating how these relations are derived from the broad general principles that govern economic life as a whole.

For the benefit of those who prefer to analyze the situation mathematically, the essence of this chapter can be set forth in a few equations. This economy of time and effort in the development of thought is characteristic of mathematical treatment in general, and to take advantage of the additional clarity of presentation that is made possible by this means, the appropriate mathematical expressions will be formulated in connection with the explanatory discussion from this point on. For this purpose the following symbols will be used:

V = volume of goods

B = money purchasing (buying) power

P = price

To indicate changes due to voluntary actions affecting the operation of the economic mechanism, a series of factors denoted by lower case letters will be employed.

a = change in the volume of production

c = consumer money reservoir transaction

d = producer money reservoir transaction.

e = goods reservoir transaction

f = change in production price

This list may seem very short for a classification which purports to represent all of the things that man can do to influence the general operation of the exchange mechanism, but it is complete. The explanation of the brevity is, of course, that the term "reservoir transaction" covers a great diversity of actions, all of which we are able to classify under no more than three headings, since all actions in each of these categories have exactly the same effect on the general operation of the economic mechanism. This recognition of the equivalence of apparently unrelated phenomena is extremely useful, and it has been one of the major tools of this analysis.

It will be noted that a symbol has been provided for a voluntary change in production price, but none for a similar change in market price. The reason is that the market price level cannot be changed by direct action. As explained in the preceding pages, this price level is a resultant, the quotient of the active money purchasing power divided by the volume of goods entering the market. It can therefore be altered only by an action which modifies the flow in one or another of these two ways; that is, a change in production price (symbol f) or a reservoir transaction (symbols c and e). It cannot be changed arbitrarily, nor is it affected by an increase or decrease in the volume of goods produced, since any such change is accompanied by an equivalent change in the money purchasing power stream (Principle IX).

The impossibility of any direct manipulation of the market price level, a point which has not been generally recognized heretofore, but was brought out clearly by the cooling system analogy in Chapter 8, is very significant, as it stands squarely in the way of the success of price control and similar economic actions, and it imposes an overall limitation on the ability of individual producers to set prices for their products. These matters will have more detailed consideration at appropriate points in the subsequent chapters.

The proportionate effect of any change in the quantities that affect the price level will depend not only on the magnitude of the change itself, but also on the magnitude of the original quantity that is being modified. In order to take this into account, these changes will be expressed as percentages of the base quantities rather than as additives. In the case of a change in the volume of production, for instance, if we denoter the actual additional volume as V', the factor a will be equal to (V+V')/V.

The market equation, which we will find applies to the production market as well as to the goods market, and will therefore be designated as the GENERAL ECONOMIC EQUATION, can be expressed as

$$B/V = P$$

Using the notation that has just been specified, we can now state Principles VIII and IX in this manner:

**Principle VIII: cB/V = cP**

**Principle IX: aB/aV = P**

These relations are mathematically exact, not speculative or empirical. They hold good whether the transactions take place through the medium of money or by some credit arrangement, whether the goods are durable or transient, capital goods or consumer goods. Prices rise when purchasing power is being swelled by reservoir withdrawals; they fall when the stream of purchasing power shrinks because of diversions to replenish the reservoirs. The fact that many economic activities are still being carried on by combination producer-consumers who do not utilize all of the advanced fourth stage economic processes does not alter this situation. The flow of purchasing power follows the same economic channels as in the newer type of organization. There is merely one less point along the line where the flow can be modified.

## CHAPTER 11

# Production

The previous analysis of the effect of the reservoir transactions was confined to the effect on the goods markets. We will now follow the money purchasing power stream a little farther and see what effect the ebb and flow of the stream has on the production end of the mechanism. In the first place it should be noted that the stream of money flowing from the goods market is exactly equal to that which enters. The price paid by the purchaser is the same as that received by the seller. Again we are looking at two aspects of the same thing. The reservoir transactions which change the flow of money to the goods market therefore cause a similar change in the flow from the goods market to the production market. Between the two markets, however, there is another set of reservoirs. Money may be stored by producers, and later used for production purchasing (buying of labor, materials, or services of capital) just as it may be stored for delayed consumer purchasing. Producers may draw from credit reservoirs, and so on. Thus the flow coming in to the production market is not the same as that which left the goods market, but is modified by the net result of these producer money reservoir transactions. The money purchasing power entering the production market is that created by production plus the net result of the transactions affecting both the consumer and the producer reservoirs.

The relation of production in terms of money to production in terms of the volume of goods produced is the production equivalent of the goods market price (or simply "market price," as we will usually call it where the meaning is clear from the context). It is the quantity which has already been designated as production market price, or production price. It might also be called "cost of production," but a different name is being used to emphasize the analogy with market price and to avoid confusion with other definitions of the cost of production that include some different elements.

It will be noted that this concept of production price defines the price in terms of payment per unit of goods output rather than in terms of payment per unit of inputs such as labor and the services of capital. Inasmuch as the average productivity per man-hour is practically fixed from a short term standpoint, the two methods of expression are almost equivalent, and the use of the output basis has some very important advantages. It not only puts all of the production costs on a commensurable basis, so that we can combine the costs of labor, interest, taxes, etc., but even more significantly, enables us to make use of the equality between production price and normal market price that is a consequence of Principle VII.

As matters now stand, an endless series of debates rages over questions concerning the effect on the market price level of various actions that change the cost of production: wage increases, higher business taxes, etc. Such problems are greatly simplified by our finding with respect to the price equivalence in the two markets, since the question as to what effect a specific action in the production market will have on prices in the goods market now reduces to the much less complex question as to what effect the action has on the production price itself. The purchasing power analysis shows that any increase or decrease in production price that is not offset by reservoir transactions is promptly and inevitably followed by a corresponding increase or decrease in the market price level.

The items entering into the production price are well defined, and no particular question arises at this point with respect to any of them except profits. For purposes of this present work profits are included in production price in the amounts *currently* earned. To arrive at the total production price of the goods produced today, we add today's wages, today's taxes, today's interest, etc., to *today's* profits. This is not a distortion of the picture to fit a preconceived theory; it is a true representation of the manner in which modern business operations are actually carried on. If a decline in the price level occurs so that the goods produced today are ultimately sold at a lower price than in now contemplated, we will not go back and alter the books to reduce today's profits. We will show the price reduction as an inventory adjustment when the change occurs. Not that these bookkeeping transactions are important in themselves; they are significant because they indicate the

basis on which economic *actions* have been taken. During the interim these funds have been treated as profits. They may have been carried to reserves, they may have been disbursed as dividends, they may have been invested in capital goods, or they may have been otherwise used, and the economic life of the community has been influenced accordingly. We cannot retrace our steps and cancel out all that has occurred.

The economic policies and actions of today are predicated on the conditions existing today and our estimates of prospects for the immediate future. It is useless to look back at the past, and we cannot look forward into the distant future with any degree of certainty. The great majority of producers, moreover, have no reserves of any consequence. If today's income fails to meet today's outgo, there is no option. This outgo must be reduced or there is no tomorrow. Even if the producer feels reasonably confident that the tide will soon turn, he must still conform to present conditions. He cannot pay out what he does not have, and the gates to the credit reservoirs are closed to him as long as present operations are unprofitable.

The producers' ability to make the necessary reductions in expenditure is a result of the fact that *the production market is subject to control,* fully insofar as volume is concerned, and to a lesser degree with respect to price. Here the production market differs very decidedly from the goods market. The latter is completely uncontrolled, except for the little that can be accomplished by means of the goods reservoirs, not because of any failure to set up such controls, or any lack of willingness to do so, but because control by the producers is impossible. They establish the *normal* price level by the wage rates they pay, but they have no influence over the amount of money stored in the reservoirs, or withdrawn from storage, by the consumers, hence they cannot control the flow of money purchasing power to the markets, and the volume of goods produced has been determined in advance of the marketing process. Since they cannot control either of these two elements, average market price, the quotient of the two, is also beyond their control.

At the production end of the mechanism the situation is different in two respects. First, and most important, the production market transaction *precedes* the production process, and the producer therefore has almost complete control over the volume of goods produced. He

can buy enough labor to operate his plant at full capacity, or he can limit his operations to any fraction of capacity, even to the extent of closing down completely. This control over volume also gives him control over total production expenditures, and it enables him to influence production price (unit costs) to an extent that depends on how many fixed commitments for wages, interest, etc., he is operating under. A second difference is that the reservoirs in the circulating money stream between the goods market and the production market (the producer reservoirs) and the reservoirs of goods (inventories) are under the control of the producers, and they are deliberately handled in a manner which conforms to production market conditions and helps to maintain control over this market.

In its role as a producer, serving other producers and the consumers, government has the same functions in the economic mechanism as a private enterprise. It may produce finished goods. Or it may act as a producer of services, performing some of the intermediate or auxiliary steps in the production process, in the same manner in which a bank or a railroad operates, and making a charge against the producers or consumers receiving the benefit of these services. The principal difference between the government and private production is that the charges made to the individual producers and consumers are less directly related to the services rendered than is customary in private business practice. This separation between the benefits derived and the costs assessed has some important economic effects that will be discussed at the appropriate points in the pages that follow, but in the meantime it should be understood that wherever reference is made to producers in general, the government is included to the extent that it participates, as a producer, in the activities under consideration. In market transactions, the government may act as an agent of the consumer, levying taxes on the consumer and using the funds so obtained in the goods market for the benefit (presumably) of that consumer.

Thus in considering the general economic relations it is unnecessary to treat the government as a separate entity. However, for some special purposes the distinctive methods by which the government assesses the cost of its services against the recipients will have to be taken into consideration. In analyzing the production price (cost of production), for instance, all elements of cost can ultimately be

reduced to payments for labor and the services of capital. The costs incurred by the government are no exception, but the mechanism whereby these costs are attached to each item produced is so different for government services that separate treatment is required. In such an analysis, therefore, we will regard the total costs as being made up of labor costs, costs of the services of capital, and taxes.

At this point it will be helpful to introduce another simplified economic concept analogous to the isolated worker-consumer, Robinson Crusoe. The complex modern economic organization has aspects which permit *some* individual workers or consumers to do many things which *all* workers or consumers are unable to do, and because of the mass of detail which confuses the issues it is often difficult to recognize the limitations that apply to the situation as a whole. An examination of these phenomena as they would exist in a Crusoe economy is therefore very helpful inasmuch as Crusoe, as an individual, is limited not only by the restrictions which apply to individuals in the modern economy, but also by the restrictions which apply to the total of *all* individuals. There are aspects of the modern economies, for instance, which permit *some* consumers to get something for nothing by means of government subsidies of one kind or another, by gift, theft, or otherwise, but it is easy to see that Crusoe cannot get something for nothing. He gets only what he produces, no more, no less, and this helps us to realize that something for nothing is prohibited by a decree that we cannot circumvent, and that we can give one individual something for nothing only by giving some other individual nothing for something.

A very similar situation exists with respect to the producers; that is, the modern economic system is so organized that *one* producer, or *some* producers can evade certain of the limitations that apply to *all* producers as a whole. Here, again, the mass of confusing detail that surrounds the pertinent facts often makes it difficult to recognize the true position of producers as a whole. The very essence of the competitive system, for example, seems to lie in the wide variation of profits between the most efficient and the least efficient producers. It is therefore hard for most observers to accept the fact that the net profits accruing to *all* producers are in total determined by the interest rate, even though it is conceded by practically everyone that for the

last hundred years or more (the whole of the time for which adequate records are available) average profits *have* actually remained at essentially the same level as interest, and those who have studied the situation theoretically almost invariably admit that such a relationship *must* be maintained because of the mobility of capital which permits it to be diverted from one use to another if there is a gain to be made by so doing.

In order to help clarify the relations applicable to producers as whole in the same manner that the Crusoe concept illuminates the true economic position of the worker-consumer, we will visualize an *isolated producer* somewhat similar to the *isolated individual* typified by Crusoe. For this purpose we will assume the existence of a self-contained economy in which all production that would ordinarily be handled by many individual producers, including the production services normally performed by the government, is handled by a single producer that is subject to the same requirements and limitations that are placed on producers as a whole in our present-day individual enterprise economy. On this basis, the single producer must obtain all labor and capital services from individual suppliers, it must compensate them at the current rate of interest, and it must disburse all of its income to these suppliers of labor and capital services, either actually or constructively, so that the long run result to the producing enterprise is zero. To enable examination of the basic processes of the economy without the confusion that is introduced by temporary reservoir unbalances in one direction or the other, we will also assume that in this economy a control is exercised over the reservoir transactions to keep the net balance of input and output at zero.

Like Crusoe, this isolated producer is hypothetical, but again like Crusoe, it is definitely possible; that is, a Crusoe *could* exist, and so could such an isolated producer. Thus in examining economic activity from these highly simplified viewpoints we are not dealing with imaginary situations; we are dealing with normal economic life stripped down to the bare essentials.

Control of the reservoir transactions to maintain a balance between total input into and total output from the money reservoirs, as assumed for purposes of the analogy, is not only entirely possible in actual practice; it is definitely essential for economic stabilization.

In this respect, therefore, a stabilized economy will operate in the same manner as the economy of the isolated producer. In application to the existing uncontrolled situation, use of the concept of the isolated producer is a way of employing the method of *abstraction,* one of the very useful tools of science. When we are considering the effects of a price change, for example, an examination of the results that can be seen to follow from such a change in the economy of the isolated producer tells us just what the *price change itself* accomplishes in the existing economy, not the results of the price change *plus some reservoir transaction,* the kind of a result that emerges from the usual analysis.

The concept of the isolated producer is particularly helpful in bringing out why, as has been stated, the producer has almost complete control over the production market. If we examine the economy of the isolated producer, we find that the total of the payments which he makes for labor and the services of capital (the money purchasing power leaving the production market) necessarily equals the total purchasing power used for buying goods (the money purchasing power entering the goods market), and it also equals the total income of the producer from the sale of goods (the money purchasing power flowing back from the goods market to the production market). These equalities hold good irrespective of the volume of production or the production price (Principle VI), and it therefore follows that the producer can vary either the price (in money) or the volume up or down without affecting the ability of consumers to buy its goods and without affecting the relation of its income to its expenditures. (Changes in production volume would have a material effect on the ability of consumers to buy the volume of goods that they *want,* but that is a different matter that has no bearing on the issues that we are now considering.) The composite situation of all producers in an individual enterprise economy, when reservoir transactions are in balance, is identical with that of the isolated producer in its economy, and the foregoing conclusions are therefore equally applicable to the composite of these producers.

Current thought in the economic profession recognizes the ability of the producers to control volume, but regards the establishment of production price as a part of the same process which determines

market price. As explained by Samuelson, "The many inputs and output markets are connected in the interdependent system economists call general equilibrium."

In this general equilibrium, market prices and production prices (costs in terms of money) mutually determine each other. Wicksell tells us that "The *prices* of the factors of production... are necessarily determined in combination with the prices of commodities in a single system of simultaneous equations."[64] Schumpeter expresses the same point in his statement that "incomes evidently "determine" prices in the same sense only in which prices "determine" incomes."[65]

This is a serious mistake, one which has had a highly detrimental effect, not only on the actual performance of the economy, but also on the emotional atmosphere in which the dealings between the various segments of the economy are carried on. The fact that this erroneous and costly conclusion is such a direct consequence of the prevailing economic theories that it can be freely characterized as "necessary" or "evident" is a clear indication of the fundamental flaws in these current theories. The concept of the circular flow of economic activity, which is orthodox doctrine today, is one of the principal factors that has turned the thinking on the subject of price determination into the wrong channels. In a circular path there is no beginning and no end; all points along the way are equivalent. If this were a true picture of the economic flow, the viewpoint expressed in the foregoing quotations would be correct. Prices would then determine incomes in the same manner as incomes determine prices, just as the economists contend, and the problem would then be to locate the originating influence. But the main stream of economic activity is *not* circular, and hence all conclusions based on the assumed circularity are wrong.

As pointed out in Chapter 8, the main stream of the economy always flows in the same economic direction. Irrespective of the type of economic organization in vogue at the moment, this stream is originated by producers, flows to consumers, and passes out of the system at that point. The production market, the market in which the modern producer buys labor and the services of capital, is located *ahead* of the production process in this main stream, and neither production volume nor production price has been established at the

time the market transaction is initiated. The volume of production can therefore be set at any level for which sufficient labor and capital are available, and wages can be set arbitrarily.

The price and volume thus established determine the rate of flow of the circulating medium at the production end of the system. If the reservoir transactions are in balance, this is the rate of flow throughout the auxiliary purchasing power circuit. It follows that since the goods market is located *downstream* of the production process and the reservoirs, both the volume of goods and the flow of money purchasing power have been fixed in advance of the goods market transactions. The average market price is therefore the quotient of two fixed quantities, and it *cannot* be arbitrarily changed. Temporary and limited price changes can be accomplished by means of reservoir transactions, unless the net total of those transactions is controlled to prevent such changes. Otherwise, market price must conform to production price. In this normal situation, *the prices paid by the producer in the production market determine the prices that the consumer must pay in the goods market.*

In order to get a more detailed picture of the operation of the markets, let us now examine the reaction of the production market to various possible economic changes, by means of the general economic equation. If money is withdrawn from a consumer reservoir, increasing the flow to the markets, the initial effect is to draw upon producer's stocks (goods reservoirs), increasing market volume without any change in the market price.

$$cB/cV = P$$

The increased flow of money purchasing power cB passes on to the producer. In case he uses the higher rate of income entirely to increase the volume of production, the production market equation will become the same as the new goods market equation, and equilibrium between the two markets will be reestablished at this higher rate of production without any change in the price level. Some producers, however will be either unwilling or unable to increase volume. When their inventories get low they will increase prices and take a larger profit. The goods market in this case becomes

$$cB/V = cP$$

The production market follows suit, and the system reaches a new equilibrium at a higher price instead of a larger volume. As a large number of producers are involved, with many variations in policies and operating conditions, the actual result in practice will be somewhere between these two limits. If we represent the modifying factors applying to V and P by y and z respectively, the final equation for both markets is

$$cB/yV = zP$$

Expressing the foregoing in words instead of symbols, we have

> **PRINCIPLE X: Any net flow of money from the consumer reservoirs to the purchasing power stream, or vice versa, causes a corresponding change either in production volume, production price, or both.**

Changes in the producer money reservoirs have the same effect as those involving the consumer reservoirs, except that they act on the production market first and then on the goods market. As already noted, however, these transactions, which have a direct effect on the status of the individual producers are more subject to intelligent control than the practically blind consumer reservoir transactions. For this reason, withdrawals from the production reservoirs are generally directed toward economically desirable ends, and they constitute a stabilizing factor in the general economy. Unfortunately, from this standpoint, these reservoirs are small compared to the huge consumer reservoirs.

The magnitudes of the factors y and z depend on the current business situation, varying between the limits of one and c. At the bottom of a depression, for instance, when profits are at the vanishing point, or in a sharp decline when producers fear that they will soon disappear, there is no incentive to increase volume. Twice nothing is still nothing. So all of the increase represented by the factor c goes toward bringing profits back to life.

Some observers have commented that business cycles swing up and down with a high degree of regularity as long as the downswing does not pass a certain point, just as a ship might roll to a certain extent with the waves. Beyond that point the ship would capsize, and could not be righted again without considerable difficulty. Similarly, it has been noted that when a recession passes a certain point it becomes

a full-fledged depression, and the task of turning the tide is greatly magnified. The foregoing explanation shows why this is true. As long as profits do not fall, or threaten to fall, below a reasonable minimum level, any improvement in the money flow to the producers is promptly reflected in increased volume as well as in higher prices, but beyond this point no volume benefit results.

Near the top of the upswing there is plenty of incentive to increase production, but exhaustion of the available labor supply interposes an upper limit. From here on, the factor y is unity, and the entire force of any increase in money flow relative to the production price must be absorbed in price increases.

Sooner or later the reservoir flow reverses. The money purchasing power flowing to the markets and from there to the producers drops below the equivalent of current production cost. Now there is no longer enough producer income to enable paying the same prices in the production market for the labor and capital services that are required in order to continue production of the same volume of goods. If the producers have available reserves in their money reservoirs that can be used for this purpose, both price and volume may be maintained for a limited period of time in the hope of another reversal of the trend. Unfortunately, these reservoirs are relatively small. They amount to no more than a drop in the bucket if the recession is a sharp one. If the inflow into the consumer reservoirs continues the time eventually arrives when either production volume or production price must be cut.

But most of the components of production price do not want to come down. Rents and interest are extremely resistant to any modification. Wages can be reduced only against very strong pressure for the maintenance of existing levels. Only profits are vulnerable. It is rather ironic, in view of all of the criticism that is directed at business profits, that the owners of venture capital are the only participants in the production process who regularly take a cut in their "wages" in order to maintain the volume of production. The cut is involuntary, of course, but it is none the less a reality. Some businesses do attempt to maintain their rate of profit, and curtail production as soon as sales drop off, but other producers by choice or by necessity conform to the change in the general price level to keep their volume up , and

the initial decrease in income is offset principally by a reduction in the rate of profit. Thus, by reason of the non-uniformity in business policies, production price and production volume decrease together in the early stages of the decline, as the flow of money to the producers drops. Again the new equation is

$$cB/yV = zP$$

Although a volume reduction is the equivalent of a price reduction from the standpoint of bringing expenditures into line with income, it does not protect profits. In fact, it usually makes matters worse, as reducing volume below the normal level generally raises the cost per unit, and thus increases other components of production price at the expense of profits. Furthermore, the new equality between income and expense is only temporary, as the reduction in volume also reduces income. As the recession continues, therefore, profits decrease irrespective of the policies that are followed, and finally one producer after another reaches the zero profit level. From here on these producers must either negotiate cuts in some of the other components, or they must close their doors.

Some, particularly the stronger companies, are able to force wage reductions, or even gain concessions from the bondholders or other creditors, but many others are reduced to bankruptcy. The number of business failures increases substantially in every recession, and reaches very serious proportions during major declines. Since the competitors are not expanding under these conditions, the failures represent a decrease in production, over and above the decreases that are taking place in the volume of goods produced by those enterprises that do manage to survive.

The lack of symmetry in the upward and downward swings of the cycle, which concentrates the effects mainly on price in the upswing and mainly on volume in the downswing, is generally recognized by economic observers. “Expansions act partly on physical volume and employment and partly on money scales of prices and wages,” says J. M. Clark. “Contractions, owing to the “ratchet action’ of an economy in which wages and prices resist downward movement, act more predominantly on the physical volume of production and employment.”66 This is why recessions, even if relatively moderate, always create unemployment (under existing conditions, where

it is not realized that employment can be maintained by purely employment measures independently of the business cycle), while a moderate amount of inflation may not have any material effect on employment.

It is important to note that there is no force tending to restore previous conditions after a price or volume change takes place. The economy simply stabilizes at the new levels. As has been brought out, the system is stable at *any* level of production and at *any* price level, as long as there is no net change in the reservoirs. Hence if a reservoir withdrawal causes an increase from volume V and price P to volume yV and price zP, the system stabilizes at yV and zP. A return to V and P does not take place unless there is a reservoir input equal in magnitude to the previous withdrawal, or the producers take some voluntary action to change volume or price. It is unlikely that they will increase or decrease production volume except to meet the requirements of the market, but they may have occasion to make voluntary changes in either the production price (that is, in wages) or in the market price. (The term "voluntary" refers to changes that are not dictated by market behavior. They may not be entirely free from coercion of some kind). We will now examine the results of such voluntary actions.

First, what happens if money wages are increased? It is usually assumed that the increase is secured at the expense of the owners of the business enterprises. This is not correct because, as brought out in the discussion of profits, the cost of the services of capital is determined by factors independent of other business costs. But even if it were true, the wage increase would have no effect on the general economy, except that some purchasing power would be transferred from one group of consumers to another. As all consumers are at the same economic location, neither the price level nor the volume of production would be affected (Principle IV).

It is true that the normal economic relationships are subject to temporary modification until the fundamental economic forces have had time to overcome economic friction, and many of those who recognize that wage increases must be reflected in the market price level sooner or later have felt that the wage earner would gain an advantage in the interim while the adjustments were taking place. But even this

transitory gain does not materialize because the wage increases add to the flow of money purchasing power *immediately.* The salient point here is that it is the wage increase itself-that is, the addition to the flow of money purchasing power-that causes the rise in the general price level. Whether or not the particular enterprises that pay the higher wages raise their own prices to compensate for the additional costs is immaterial. If the prices of their products are not raised, the prices of some other products must be. The general price level must go up enough to absorb the additional money purchasing power.

In terms of the general economic equation, the higher wages increase production price from P to fP. This pushes money purchasing power up to fB, and the new production market equation is

$$fB/V = fP$$

The increased flow of purchasing power fB received by the workers passes on the the goods market and, not being counterbalanced by any increase in the volume of goods, increases market price to fP. It then continues on to the producers and restores the inflow of money into their treasuries to an equality with the larger outflow to the production market for the purchase of labor and the services of capital. The net result is therefore nothing but an equilibrium at a higher price level.

> **PRINCIPLE XI: Arbitrary increases or decreases in wage rates have no effect on the volume of production or the ability of consumers as a whole to buy goods.**

There is much reluctance these days to accept any contention that an increase in money wages necessarily involves a corresponding increase in prices, because this conclusion interferes with many popular and attractive schemes for lifting ourselves into prosperity by our bootstraps, but the purchasing power analysis shows that it is true nevertheless. Any net increase in the amount of money purchasing power available to consumers by reason of a wage increase is promptly and inevitably counterbalanced by an increase in the market price level, and there is no gain to the economy as a whole.

This is not an argument *against* high money wages. It merely establishes the fact that high money wages have no beneficial economic effects. They do not improve the ability of the consumers to buy goods, nor do they have any effect toward increasing the volume of production. This analysis therefore refutes the contention that

raising wages can improve economic conditions, and it also exposes the futility of the recurrent agitation for higher wage rates as a means of "increasing purchasing power." Adjustments of money wages upward or downward do not alter the total *real* purchasing power (the ability of consumers to buy goods) in the least; any gain that one group may make is offset by a loss to all other persons who work for a living, or who have funds invested on a fixed income basis-in pensions, bonds, life insurance, annuities, mortgages, etc.

Outside of the rather serious inequities that develop between the individuals who are benefited and those who are harmed by the changes, and a certain amount of business dislocation during the process of adjustment, wage increases do neither good nor harm to the domestic economy as a whole. (The effect on foreign trade will be discussed in Chapter 16.) Those enterprises which are able to resist the pressure for wage increases the longest will gain at the expense of those who raise wages first, but the general average of business volume and profits will remain unchanged.

Whether there are other, non-economic, grounds on which arbitrary wage increases can be justified is another question. There may possibly be some psychological value in high wages that is absent in low prices, even though they amount to the same thing. But this is beyond the scope of economic science. If it is within the bounds of economics at all it belongs to the sociological branch of the subject. There is, of course, ample justification for whatever wage increases are required to keep the price level unchanged as productive efficiency improves, since falling prices create the same kind of inequities as rising prices, but this applies only to the *general* price level, not to the prices of individual items. If the inequities are to be removed, some systematic method of distributing the wage increases among all segments of the economy will be necessary.

The analysis shows that economic stability is independent of the money wage level. Both prices and volume of production (employment) can be stable at any wage level. This is, of course, in direct conflict with orthodox economic thought, which holds, as J. R. Hicks puts it, that "A raising of wages above the competitive level will contract the demand for labour, and make it impossible to absorb some of the men available."[67]

Several factors have contributed to getting economic thought this far off the track. The most important of these, reliance on an erroneous theory of wages, will be discussed in Chapter 18. The influence of the equally erroneous circular flow concept has already been mentioned. Then, too, supply and demand considerations have been introduced into this situation where no change in real quantities takes place, and supply and demand theory does not apply. Another factor that has had an effect on economic thinking is the fact that unemployment by reason of threatened business failures during recessions and depressions can be -and frequently has been-avoided by wage reductions. On first consideration this seems to confirm the hypothesis that there is a relation between the amount of unemployment and the wage rates, and the experience is generally so interpreted, but the analysis in this work shows that the absolute level of wages has no significance in this connection. It is wage *flexibility* that is helpful in recessions.

When there is an input into the consumer money reservoirs so that the money purchasing power entering the markets drops to cB (where c is a fraction), the income accruing to the producers also drops to cB. The original volume of production V can then be maintained only if production price can be reduced to cP. Since wages constitute the largest component of production price, no substantial reduction in P, beyond that accomplished by eliminating profits, can take place without a cut in wages, and if there is no wage flexibility the producers must cut volume, thereby creating unemployment. Ability to cut wages *below whatever level existed before the recession* is therefore an employment-preserving factor when recessions occur, but this does not mean that there is any significance in the absolute level of wages either before or after the reduction, nor does it mean that a reduction of wages would increase employment under conditions in which no deflation is taking place. As expressed in Principle XI, arbitrary decreases in wage rates (that is, decreases not made in response to some special market situation such as the one that we have just been discussing) have no effect on the volume of production, and therefore no effect on employment, which in the short run situation is a function of production volume.

An increase in business taxes has the same effect on the general operation of the economic system as an increase in wage rates. In the

use of tax money, the government acts as the agent of the consumers (the general public). Higher business taxes therefore increase the total amount of money purchasing power available for consumer spending, just as a wage increase does, even though the additional money does not go directly into the hands of the individual consumers. The amount of money flowing to the markets is thus increased without any change in the production of goods. This raises the general price level, and increases the income of the producers by the amount required to offset the additional cost.

We next turn to the other side of the picture, the market price. Here we find that the producer has only a comparatively narrow margin for voluntary action. He cannot raise prices relative to the general price level without losing business and consequently reducing his profits. He cannot cut prices relative to production costs without reducing the rate of profit per unit. Furthermore, unless he has a cushion in the form of substantial reserves, the average producer must stay within the zero profit limits either way; he cannot afford to operate at a loss. Under normal conditions, this producer will attempt to establish prices which, in the long run, will give him the maximum total profits, a compromise between the greatest possible volume of business and the maximum possible rate of profit per unit.

We are interested now in determining the reaction of the economy in general if the producer is induced by external pressure to modify his normal policy and reduce his prices to some lower level. While this will have a prompt effect on the profits as shown on the books of the enterprise, the disbursements to the suppliers of capital will not be altered immediately, and the flow of purchasing power from production to the markets will therefore remain unchanged for the time being. This means that the average market price level likewise remains constant, and the only effect of one producer's arbitrary reduction in price will be that some other producer's price goes up. In all probability the futility of the action will soon be recognized and the original price will be restored.. If not, dividends will have to be cut, and since they constitute money purchasing power in exactly the same manner as wages, the total purchasing power generated by production will drop from B to fB, where f is a fraction. Market price will necessarily conform, and the new economic equation will then be

fB/V = fP

No change in production volume has occurred. The price level in terms of money has dropped, and some purchasing power that been transferred from owners of capital to other consumers, but the *real* price level, the cost of goods in terms of labor, is unchanged, and there has been no benefit to the general economy. Furthermore, the gains that are made at the expense of the suppliers of capital services cannot be other than transient, as a continual replacement of capital is necessary in order to enable continued production, and a diversion of earnings away from the suppliers of capital would inevitably dry up the capital supply and destroy the enterprise. We therefore arrive at the conclusion that it is sound policy for the producer to adapt his prices to the general market price level, so far as he is able, but that arbitrary changes made irrespective of the general price level, or in an attempt to influence that price level, accomplish nothing.

**PRINCIPLE XII: Voluntary market price changes by producers have no effect on the volume of production or the ability of consumers as a whole to buy goods.**

This principle is in direct conflict with current economic thinking based on supply and demand theory. As brought out in the preceding pages, however, that theory is not valid in application to the economy as a whole. This is another place where the concept of the isolated producer, Crusoe & Co., can be of considerable assistance in clarifying the situation, as the validity of Principle XII is readily verified by examination of the effect of price changes in the economy of this isolated producer.

As matters now stand one of the greatest contributions that could be made toward economic understanding would be to obtain a general realization of the fact that the market price level is a *resultant,* not a quantity that can be manipulated by government controls or by the pricing policies of the individual producers. The general price level is determined by the rate of compensation paid to the suppliers of labor, by the business tax and subsidy rates, and by the rate at which money purchasing power is being stored or withdrawn from storage in the reservoirs, and it cannot be changed except by measures which alter one or more of these determinants. So-called “price control” is nothing but a delusion. The general level of prices can be prevented

from rising by prohibiting, or limiting, wage increases, or by forcing diversion of excess money into the reservoirs, but any price control is effective only to the extent that it accomplishes one or both of these results. The direct "price fixing" that is so often resorted to in emergencies is futile; holding down *some* prices simply means that others must go up. Holding down *all* prices by direct action is simply impossible-so hopeless that no one even tries it.

Attempts by business enterprises to influence the general price level by their pricing policies are equally futile, but unfortunately the economic profession has not been able to get a clear enough view of he situation to recognize this fact. Galbraith, for example, asserts, "Yet it is plain that a firm that advances its prices after a wage increase could have done so before."[68] What he fails to see is that before the wage increase their prices could be increased only at the expense of some other producers, who must then *reduce* their prices, since the total money purchasing power available for buying *all* goods remains unchanged. This would, or course, initiate a competitive round of repricing which would react against the original producer. After the wage increase the producer that granted the increase can increase his prices without any effect on the price situation as a whole, inasmuch as the additional money purchasing power required to pay the higher price is provided by the increased wages.

Where the wage increase applies only to a single producer and not to his competitors, it is not possible for that producer to offset the full amount of the increase by raising his prices, as this would result in too much of a loss of business. In this case the inevitable increase in the general price level is spread out over the entire economy. But where wages are established on an industry-wide basis, all of the direct competitors are affected equally, and here a price increase to compensate for the added costs leaves both the competitive situation within the industry and the price equilibrium in the rest of the economy unchanged. The error in Galbraith's appraisal of the situation is particularly obvious when we look at the economy of the isolated producer. It can easily be seen that this producer, as we have defined him, *cannot* increase his prices before a wage (or other cost) increase, and *must* do so after a cost increase of any kind.

The foregoing pages portray the producer (the employer) in quite a different role in the general economy than the commanding position, with respect to wages and prices, in which he is commonly visualized. By his economic actions, the individual producer may influence his own status very materially, and that of his employees as well, but whatever benefits may be accomplished by manipulation of wages and prices are merely differential gains realized at the expense of other producers or other workers. As the analysis shows, no arbitrary actions in these areas can alter the real price levels, either the real wage level, the average wage in terms of the amount of goods that it will buy, or the real market price level, the average price of goods in terms of the amount of labor required to buy them. Any reduction that the producer makes in his own price will not reduce the general price level, and any wage increase that he may grant will not increase the total real income of consumers (their ability to buy goods).

The really significant actions of the producer, from the general economic standpoint, are those which he takes to increase the *efficiency* of the productive process. As stated earlier, the results achieved by any economic system, or organization, are mainly determined by the extent to which the producing units are allowed and encouraged to carry out this primary function of controlling and increasing productive efficiency. To complete the present discussion, we will now take a look at the effect of an increase in productivity as seen in terms of the general economic equation:

$P = B/V.$

According to Principle IX, an increase in production volume at a constant rate of productivity does not change the price level, as the increase in volume from V to aV is accompanied by a corresponding increase in the payments to the suppliers of labor and capital services, which raise B to aB. The quotient aB/aV is still P, the original price level. However, if the larger volume is attained by means of greater productivity, the payments to the suppliers of labor and capital services do not increase, and purchasing power remains at B. The economic equation is then

$B/aV = P/a$

The market price thus drops in proportion to the increase in production volume. As indicated in the preceding discussion, there

are some advantages in maintaining a constant price level, and this could be accomplished by increasing money wages by the equivalent of the increase in productivity. The result is

aB/aV = P

This equation is identical with that which results when the increase in volume is accomplished by employing more workers, but in the latter case the additional purchasing power is shared by the additional workers, and the average income of the original workers remains at B. However, if the increase in volume is attained by greater productive efficiency, the total money purchasing power aB goes to the original workers and their average income is raised from B to aB. The increase in productive efficiency thus accomplishes the kind of a true gain in the ability of the workers to buy goods that cannot be attained by any kind of juggling of the money labels attached to either wages or goods.

Now let us review the contents of this chapter. The question at issue has been: Can we put our finger on the factor that determines whether general business conditions are good or bad? The answer is: Yes, we can. Business if good if the money purchasing power resulting from production is all flowing to the goods markets so that there is sufficient return from sales to pay all of the costs of production, including profits in satisfactory amounts. Business is not good if some of this money purchasing power is being drained off because money is flowing into the reservoirs; that is, accumulating in the banks, or being withdrawn from circulation. In this case the money income of business enterprises is not sufficient to take care of all of the costs. Efforts to reduce these costs by cutting wages or laying off workers may save some individual enterprises, but they are fruitless so far as the general economy is concerned, as they merely cut the total income of all businesses that much more. Business is more than good, it is booming, if money is being withdrawn from the reservoirs and used in the markets, because then the money income from sales is greater than the cost of production.

But the prosperity during the boom is costly in the long run. Sooner or later the money reservoirs must be replenished, and then we have a depression, at least the less severe kind of a depression that we call a recession. From the very nature of the rise, it must inevitably be

succeeded by a fall. The only stable condition-the only one that can be permanent-is a condition of balance where reservoir input and outflow are equal, and business income is therefore in equilibrium with the costs of doing business. The answer to the problem of stability is to take appropriate actions that will offset the erratic buying habits of the consumers and government agencies, and will maintain this balance.

As long as such a balance exists, a *general* increase in wages or in business taxes will have no adverse effect on business enterprises. Market prices will rise enough to absorb the increase in money purchasing power, the increase will pass on to the producers, who will then be back in the same relative position as before the cost increases. The price increase is inevitable and inescapable; it will take place regardless of what business enterprises want to do about it-even if they try to hold it back. The reverse is also true, as experience during depressions has demonstrated. The producers cannot keep the market from adjusting itself to a falling purchasing power flow. If they keep their prices up in defiance of a falling market trend, they cannot sell their goods. If they hold their prices down in defiance of a rising market trend, they merely raise the prices of other goods, for the general average of prices is fixed by the relation of the money entering the markets to the goods production volume.

Efficient operation of the economic system to attain the results that we want is not the complicated and difficult task that we have been led to believe. It is difficult for those who want to "reform" the system to conform with their own ideas, but if we address ourselves to the specific task of eliminating the cycle of booms and depressions, and leave the "reforms" to the reformers, there are no serious obstacles in our path. Later in this volume it will be demonstrated that there are many practical methods of accomplishing the stabilization of the money reservoirs that is the primary requisite for permanent prosperity. These measures do not involve alteration of our economic institutions, or reconstruction of our people; they merely provide the means whereby intelligent control can be applied to the system that is now in operation.

## CHAPTER 12

# Money Inflation

"The unsolved problems of the affluent society," says Galbraith, are (1) "the process of consumer demand creation and its financing," and (2) "inflation."[69] "The solution" to the first of these problems, he tells us, "or at least one part of it, is to have a reasonably satisfactory substitute for production as a source of income."[70] Here is an idea that certainly deserves some kind of a medal as a prime example of economic absurdity. Real income, all economists admit, can be measured only in goods; that is, money or money substitutes constitute income only to the extent that they can be exchanged for goods. What Galbraith is telling us, then, is that the answer to our problem is to devise some way of getting goods without producing them – some kind of magic.

But he does not stand alone. He has plenty of distinguished company. The happy hunting ground of the "something for nothing" enthusiast, the individual who refuses to recognize the conservations laws, has always been the field of economics. Here there is an unbroken line of succession from the John Laws of one era to the Francis Townsends of another, and it is hard to find an economic fallacy of any description that cannot command the support of at least one of two economists of the front rank. Thus we find the thoroughly discredited "automatically depreciating money" or "self-liquidating scrip" endorsed by both Keynes[71] and Irving Fisher,[72] the "social credit" program approved by Joan Robinson73 and the performance of useless work as a means of enriching the community advocated by both Beveridge[74] and Keynes[75] and more recently by Myrdal.[76]

Mrs. Robinson's comment on the proposed "social dividend" is particularly revealing. "To conventional minds," she says, "this scheme seems altogether too fantastic to be taken seriously... But

all the same it recommends itself to common sense. If there is unemployment on the one hand and unsatisfied needs on the other, why should not the two be brought together by the simple device of providing the needy with purchasing power to consume the products of the unemployed?" Here is a typical example of the logic of the present-day socially oriented economic reasoning. The objective of this proposal is unquestionably praiseworthy, hence let us forthwith proceed to adopt it without further ado.

The first question that the scientist asks in such a situation is Can it be done?–Is there a "simple device" by means of which we can supply the needy with purchasing power?–gets no consideration from the economist who has his eyes on the commendable objective. To him it is the kind of a problem that is solved merely by persuading the community to arrive at a decision to take action. He does not bother to follow the "dividend" back to its source to determine where the purchasing power is coming from. So far as he is concerned it just materializes out of thin air. As Schumpeter explains, "It is always a question, not of transforming purchasing power which already exists in someone's possession, but of the creation of new purchasing power out of nothing."[77]

It is particularly strange that the economist, who recognizes so clearly that the only true measure of wages is the amount of *goods* that they will buy, and has coined the expressive term "real wages" to designate this quantity, should be unable to see that the same principle applies to *all* entities that are measured in terms of money. Regardless of whether it happens to be in the form of money wage payments, money obtained from some other source, or some substitute for money, a quantity of money purchasing power is simply a *claim* against the goods produced, and it stands to reason that the more such claims that are issued against the same quantity of production, the less each one is worth in terms of *real* purchasing power. The suppliers of labor and capital services receive as payment claims against the total production of the community equal to the total value of the production. If any *additional* claims of any kind are issued, by providing purchasing power in some other way, as advocated by Galbraith, Keynes, Robinson, Myrdal, *et al.,* the effect is simply to decrease the value of the original claims. All

that is accomplished by such measures is to divert goods from those who would normally receive them as payments for their productive activities into the hands of other individuals who have contributed nothing toward production.

This is not necessarily an argument *against* such a diversion. There is much to be said in favor of subsidizing those who are involuntarily unemployed, those who are physically handicapped, etc., at the expense of those who are regularly receiving payments for productive services, but such subsidies should be recognized for what they are, and should be handled accordingly, not presented in the guise of measures to aid the economy in general. All such diversions of purchasing power from one group to another are transactions at the same economic location. As stated in Principle IV, such transactions have no effect on production in general or marketing in general. They do not enrich the community; they merely help some groups at the expense of the others.

The synthetic purchasing power which well-meaning but visionary individuals propose to distribute so freely in the form of "social dividends" or other handouts to those who have done nothing to earn them (Galbraith specifically condemns "the Puritan principle that leisure should be less amply rewarded than work"[78]) could be obtained by taxation, but this is not popular among the supporters of the measures as it then becomes too painfully obvious that these programs merely rob Peter to pay Paul. What the socio-economist tries to do is to devise the economic equivalent of a perpetual motion machine: a scheme which will create something – purchasing power in this case – out of nothing. But the basic laws of economics are no more subject to evasion that the corresponding laws of physics. Purchasing power cannot be created except by production. All that the "something for nothing" schemes ever produce is more *money,* and this merely dilutes the value of the existing money. It does not add anything to real purchasing power.

A failure to distinguish between *money* and *purchasing power* is one of the great weaknesses in modern economic theory. This lack of differentiation not only opens the door to a weird assortment of "something for nothing" schemes of the type just discussed, but, even more significantly, it prevents the economist from seeing the solid

and stable relationships that do exist in the economic field, those that constitute the basis for the theoretical development in this work.

For example, it is this confusion between money and purchasing power that is responsible for Samuelson's previously quoted statement that there is no economic law to prevent the creation of purchasing power. He can see that *money* can be created out of nothing, and that this money can be used as purchasing power, hence he concludes that purchasing power has been created. What he fails to recognize is that the total amount of purchasing power (ability to buy goods) that was previously in existence has not been altered by the addition of more money. This money is circulating purchasing power, to be sure, but as money it is measured in dollars (or their equivalent); as purchasing power it is measured in terms of ability to buy goods. In terms of dollars, the circulating stream has been increased, but in terms of purchasing power it remains unchanged. The issuance of more money has not created purchasing power; it is merely a device whereby purchasing power can be diverted from those who now possess it to others who will presumably use it in a manner meeting the approval of those who control the diversion.

If the government issues more currency, it is able to buy goods therewith, but the ability of the recipients of normal income (wages, etc.) to buy goods is decreased proportionately. This fact is generally recognized in the case of severe currency inflation, as it has been demonstrated over and over again in actual practice, but it should be realized that this is a general principle which applies to all money inflation, including that resulting from banking transactions. New credit money issued by the banks has buying power only to the extent that the buying power of current income from other sources is decreased. The new currency increases *money* purchasing power, but it does not alter the real purchasing power, ability to buy goods, The buying power of the new money is attained only by reducing the buying power of the money received as compensation by the workers and the owners of capital (Principle XV).

Any program that puts purchasing power into the hands of individuals other than those who supplied the means whereby it was produced takes this purchasing power away from other individuals,

usually the general public. If the diversion is not accomplished directly by taxation it is accomplished just as surely by inflation. The net result of the futile attempts to solve Galbraith's problem number one is therefore to push us into the jaws of his problem number two.

*Inflation is the reaction of the economic mechanism to man's attempts to get something for nothing.* It is the way in which the economic system enforces payment when the members of the human race try to avoid paying the costs of their actions. Efforts to find a "substitute for production as a source of income" are attempts to get something for nothing, and if such schemes are put into operation the result is inflation. Efforts to "increase purchasing power" by subsidizing special groups are attempts to get something for nothing, and they cause inflation. Efforts to avoid high taxes by printing money with which to meet governmental expenses are attempts to get something for nothing, and they cause inflation. Efforts to improve the status of the working population by raising the level of money wages, or reducing the hours of work without cutting wages, are likewise attempts to get something for nothing, and they cause inflation. Efforts to attain prosperity by cutting taxes while government expenditures are maintained, or even increased, are attempts to get something for nothing, and these, too, cause inflation. Something for nothing is prohibited by a law that we cannot evade, and no matter how ingenious the attempt at evasion may be, the end result is always inflation, which means that the general public has to pay the bill.

General inability or unwillingness to recognize the real meaning of inflation is the cause of most of the confusion which now reigns in this area of economic thought, a confusion which led the authors of a 1963 *Survey of Inflation Theory* to describe their work in these words:

> Our survey is accordingly more of a guide through chaos than a history of revealed doctrine or a systematic critique of a few rival positions.[79]

In this atmosphere of "chaos" that now surrounds the subject the various investigators are not even able to agree as to just what they are talking about when they speak of "inflation." The authors of the

survey just mentioned make this comment: "Indeed, disagreement over the definition of the term is symptomatic of the confusion in inflation theory." Our first concern, therefore, will be to define the concepts with which we will be dealing. We begin by defining inflation in general.

***Inflation* is an increase in the general market price level.**

This defines inflation in terms of its effect, which is the primary concern of the victim, the consumer who has to pay the higher price. For purposes of analysis, we are interested in the relation between the causes of inflation and that effect. From the points brought out in the discussion in Chapters 10 and 11 it is clear that the effects of a price level increase originating in the production market are quite different from those of an increase originating in the goods market, and we will therefore want to distinguish between the two. The most common cause of price increases in the production market is an increase in wage rates, but several other factors, such as increased business taxes, or lagging productivity, that increase the cost of production have the same effect. We will therefore use the term "cost inflation" for this kind of an increase in the price level.

> ***Cost inflation* is an increase in the general price level originating in the production market.**

No fully satisfactory term is available for the price level increase originating in the goods market, but since its cause is a net withdrawal from the money reservoirs which increases the flow of money purchasing power in the circulating stream, we may call it a money inflation.

> ***Money inflation* is an increase in the general market price level due to an addition to the money flow in the circulating stream from the money stored in the reservoirs.**

The terms "demand inflation" or "demand-induced inflation" are quite commonly used in present-day economic literature with the same general significance that has been given to "money inflation" in the foregoing definition, but since we find it necessary to take some exceptions to the economists' conception of the relation between demand and inflation it has seemed advisable to use a different term. Another terminology that is used to some extent refers to "seller's

inflation" and "buyer's inflation," which correspond roughly to cost inflation and money inflation respectively.

Although inflation is ordinarily regarded as an increase in goods prices, it would be equally correct to consider it a decrease in the value of money. What it actually does is to change the relation between the two, and the question as to which one is altered is merely a matter of which we take as our reference point. The usual practice is to call it a price change because money is utilized as a standard of value for economic purposes, and we therefore tend to regard money as the fixed element and price as the variable element in market transactions. However, if the conditions are such that the buying power of the local currency can be compared with that of gold or some currency enjoying more general acceptance, we then recognize variations in the relative buying power as compared to that of these more stable forms of money as being evidence of changes in the value of the local currency rather than price changes. Minor changes of this kind are accepted as no more than fluctuations in the currency exchange rate, but a significant drop in value is known as *currency inflation,* since this kind of a value collapse almost always results from financing government expenditures by printing currency rather than by taxation. Technically it is simply a severe money inflation.

One of the major reasons for the existing "chaos" and "confusion" in current inflation theory is that the difference between cost inflation and money inflation is not generally understood. As A. P. Lerner says, "A failure to distinguish between the two types of inflation aggravates a problem which has become a serious threat to democratic society."[80] The two kinds of inflation originate from different causes, their effects are different, the arguments for eliminating them are different, and the measures that are required for this purpose are different.

In spite of the general apprehension about the so-called "wage-price spiral," cost inflation is not a major *economic* problem. Increases in wages or other elements of production cost alter the relation between fixed obligations and the general price level, and therefore alter the value balance in existing commitments, favoring some groups of individuals at the expense of others, and thus creating a

social problem. When wage increases are negotiated piecemeal and unsystematically in accordance with present practice, they also result in serious inequities between different groups of workers – another *social* problem – but inflation or deflation originating from wage increases does not affect the ability of the consuming public *as a whole* to buy goods. Whatever increases take place as a result of these changes are counterbalanced by a corresponding increase in the available money purchasing power resulting from the higher wages. Furthermore, the cause of this type of inflation – too much liberality in granting the wage increases – is well known and the cure is obvious, even though it is politically unpopular, as matters now stand in the absence of a clear understanding of what is going on.

The "serious threat to democratic society" is money inflation. Unlike cost inflation, this is an unbalanced transaction. The equality between the quantity of goods in one economic stream and the quantity of money in the other, which is always maintained at the production end of the mechanism, no longer exist when these streams reach the goods market because the reservoir transactions along the way introduce or withdraw money from the auxiliary stream without altering the stream of goods.

Let us consider, by way of illustration, a situation in which an isolated community has a total annual production valued at one million dollars. The suppliers of labor and capital services receive from the producers money equivalent to the total value of the products – one million dollars – and this is exactly the amount which these suppliers of labor and capital services, in their capacity as consumers, need in order to buy the full amount of the annual production at the normal price level, the price level determined at the production end of the mechanism. Now let us assume that the government issues an additional half million dollars in currency, and uses this new money for purchases in the goods market. So far as the markets are concerned, this half million dollars is indistinguishable from the million dollars of money purchasing power generated by production, and we therefore find that 1.5 million dollars are competing in the market for goods originally valued at only one million dollars. The result is inflation. Unless there is an offsetting input into some money reservoir, the price level goes up 50 percent.

If the government uses part or all of the new money to pay wages and salaries rather than to purchase goods, the ultimate effect is the same. Normally, the government sells its services to the consumers, directly or indirectly, just as any other producer of services does, and the taxes that the consumers pay have the same economic function as the payments that they make to the other producers for the services that they receive. When the government is operating on the basis of a balanced budget, its expenditures for labor and the services of capital are equal to the receipts from taxes and other income sources, and the net resultant is zero, as it is for the private producer. In this case the effect of the government operations neither adds to nor subtracts from the amount of money available for the purchase of other goods in the markets. But if the government pays the suppliers of the labor and capital services with new money instead of collecting taxes, the total money flowing to the markets is increased by the amount of the new currency issue. The result is that the price level is inflated to the same degree as if the new money were used for direct purchase of goods.

It is frequently contended that the inflation would not occur if the new money were used exclusively for buying goods that result from *additional* production, since the increased volume of goods would offset the increased amount of purchasing power. Those who argue along these lines are overlooking the fact that the new production creates its own purchasing power. If additional goods valued at a half million dollars are produced as a result of the transactions we are now considering, a half million dollars is paid to those who supply the labor and capital services for the production of the additional goods, and this amount adds to the total available purchasing power. We then have 2.0 million dollars available for buying 1.5 million dollars worth of goods. The percentage effect on the price level is now somewhat less severe. The rise is only 33 percent instead of 50 percent, because of the greater total production over which the inflationary effect is spread, but the inflationary gap, the excess of money purchasing power over the available goods, is still the entire half million dollars of the new currency issue.

No one was particularly surprised that inflation occurred during World War II in spite of the OPA and its much advertised "price control" measures, but there was a general belief, not only among

the rank and file, but among economists, business leaders, and government officials as well, that when the guns were finally silenced and the productive machinery of the nation could be reconverted to the ways of peace, any further threat of runaway prices would be overwhelmed by the torrent of goods that would pour forth from our farms and factories. Here again, as in the forecast of the employment situation, the "authorities" were *consistently* wrong. There was not the unanimous agreement on the wrong answer that featured the estimates of post-war unemployment, but the great majority of the experts concurred. As in the case of employment, this clearly indicates that something more than mere errors of judgment was involved. The results could not be so uniformly off color unless there was some flaw in the accepted premises on which the judgments were based.

The nature of this flaw is readily apparent when we take a look at the excuses that are being offered for the poor showing made by these forecasts. On every hand we meet the contention that inflation occurred because production did not increase fast enough. It is admitted that reconversion to civilian production moved ahead much more swiftly and smoothly than was anticipated, unemployment was far below the estimates, and aside from some labor troubles and disagreement over price policies, the industrial machine rapidly shifted into high gear. Even if there were sometimes a million men out on strike, there were anywhere from five to ten million other men working that were supposed to be idle according to the estimates of these same experts. This means that the production in the immediate post-war period was substantially *greater* than the forecasters expected, yet we are now told that their price predictions went astray because of the failure of the industrial machine to produce goods quickly in sufficient quantities.

With the benefit of the economic principles developed in this work it can easily be seen how the experts got themselves into this untenable position. In reality it would make no difference whether the volume of production was as low as the "authorities" estimated in advance, or as high as they now think would have been necessary. We would still have had inflation in either case inasmuch as *the volume of production has no bearing on inflation* (Principle IX). The

cause of the inflation immediately following the end of the war was an excess of available money purchasing power

It is probably hard for many persons to accustom themselves to the idea that there can be too much money purchasing power. It seems so simple to take care of any excess by producing more goods for sale. While the worst of the post-World War II inflation was under way we were continually exhorted to strive for greater production in order that there might be goods for the people to buy with their backlog of "savings." But extra production, however great it may be, creates its own purchasing power. Every additional dollar's worth of goods produced adds one dollar to the total purchasing power available for buying goods, and the inflationary surplus remains undiminished. Maximum production is a worth-while aim, but it is not a remedy for inflation. The inflationary unbalance can be corrected only where it originates, in the money reservoir transactions.

The inflationary results are the same regardless of the type of money reservoir transaction that is involved. Purchasing power obtained in any manner other than production can be utilized only by diverting goods away from those who are entitled to receive them in exchange for their productive services. The community as a whole cannot get something for nothing, and when any individual, or group, or the government itself, gets something for nothing by reason of one of those money purchasing power transactions that we have called reservoir withdrawals, someone else pays the bill by getting nothing for something. From the standpoint of the general public money inflation is simply a form of taxation, one which is, in a sense, dishonest, because its true character is largely concealed by the indirect manner in which it takes effect.

Furthermore, the burden of this type of inflation falls heavily on some segments of the population, while others are practically untouched. Owners of real estate, stocks of goods, or shares in corporate property holders, escape with little or no cost, as the real value of this property remains constant, and its money value therefore rises as the inflation progresses. Organized workers who are able to force compensatory wage increases suffer only to a minor degree, and many business enterprises make handsome profits out of

the inflationary price rise. Most of the weight of this discriminatory "tax" bears down on the less favorably situated workers and on the recipients of fixed incomes.

When we face the issue squarely, inflationary fiscal policy is a costly economic blunder. But governments which must face elections are, as a rule, favorably disposed toward increasing expenditures, and at the same time notoriously reluctant to levy enough taxes to balance their accounts, an attitude in which they are encouraged by an influential school of economic theorists who see virtue in living on credit. As a result, inflation has become, to a considerable extent, a way of life in most nations. As matters now stand, it is not only a "serious threat to democratic society," but also a serious threat to general world stability.

Viewed from the purchasing power standpoint, with due consideration of the dominant position of the consumer reservoirs, the causes of money inflation and its effects on the general operation of the economic system are actually very simple, and no extended discussion of the theoretical situation should be necessary. It may be helpful, however, to examine some of the current errors and misconceptions about the subject in the light of the new information that is now available.

The most serious error into which the economists have fallen, so far as their understanding of inflation is concerned, is their repudiation of Say's Law and substitution of the concept of an essentially autonomous demand for goods-in-general. It is this fallacy of the autonomous demand that has opened the door to today's weird assortment of inflation-producing schemes, and has muddied the waters to such an extent that the economic profession is ready and willing to give respectful attention to such outrageous ideas as Galbraith's proposal that we should find a substitute for production as a source of income, or Hansen's equally outrageous suggestion, contained in the following statement, that cutting employment would overcome excess demand and lead to price stability.

> Following the Second World War we had, as we all know, a considerable price rise... The closets were empty, the shelves were bare, consumer stocks and business inventories had to be replenished. Under these circumstances price stability could not have been achieved

> unless indeed we had been prepared to cut employment and income sufficiently to reduce demand to the level of the then available flow of consumers' goods.[81]

If Say's Law had not been jettisoned by the economic profession, the almost incredible blunder of forgetting that cutting employment reduces the production of goods could not have occurred. As originally interpreted, Say's Law was inaccurate, to be sure, since it is not actually a law of markets, as it was assumed to be, but a law of production. Nevertheless, any attempt at a critical analysis would have revealed what was needed in the way of a modification of the law to make it accurate. Indeed, some economists have come very close to stating the true facts, even without making a thorough analysis. G. L. S. Shackle, for instance, makes this comment:

> If goods are in fact bought and sold for money, and a money stock exists in the economy, it seems plain that money can be withdrawn from the stock and used on the commodity market, thus upsetting Say's Law.[82]

It should be equally clear that this withdrawal of money from stock is something of a totally different nature from creating purchasing power by production of goods. At this point, therefore, it should have been evident that Say's Law is correct so far as the relation of the production of goods to the creation of purchasing power is concerned, and that it is the variations in storage of money (the reservoir inputs and withdrawals, as we are calling them in this work) that are interfering with the application of the law to the goods markets. But the economists have insisted on taking the stand that Say's Law is incorrect, rather than recognizing that in reality it is a correct law incorrectly applied.

A significant point in this connection is that each economist who feels called upon to explain what is wrong with Say's Law usually comes up with his own interpretation of what the law really means. Here are some examples:

> Thus Say's Law, that the aggregate demand price of output as a whole is equal to its aggregate supply price for all volumes of output, is equivalent to the proposition that there is no obstacle to full employment.[83]

> If Say's Law is meant to be applicable to the real world, therefore, it states the impossibility of an excess demand for money.[84]

> The doctrine that supply creates its own demand, in other words, is based on the assumption that a proper equilibrium exists among the different kinds of production, and among prices of different products and services.[85]
>
> Say's Law specified in the clearest terms that this [a shortage of demand] could not occur.[86]
>
> The simple-minded belief in Say's Law that held overproduction to be impossible...[12]

The truth is that Say's Law has nothing to do with any of these items, either as Say originally formulated it or in the modified form in which it is employed in this work (Principle III). It is not concerned with the demand for money, or with employment, or with overproduction, or with lack of demand, or with an equilibrium between individual prices. What it says is that production of goods automatically creates the exact amount of purchasing power necessary to buy those goods, because the goods themselves *are* the purchasing power.

The statement that "supply creates its own demand" is a correct expression of Say's Law if it is properly interpreted, but unfortunately it is too often misunderstood. There is a somewhat general impression that the statement means that the act of producing goods automatically insures the availability of enough buying power to purchase these goods in the markets at prices equivalent to the cost of production, the latter term being understood to mean the actual payments made by the producer for labor and the services of capital (including some return to the owners of the equity capital). While our findings indicate that in the long run this is true for the aggregate, it is quite evident, both in theory and in practice, that it is not true over shorter intervals, nor does it hold good in each individual case. This discrepancy has contributed materially to the existing distrust of Say's Law.

The source of the difficulty can easily be located by looking at the purchasing power creation from a *value* standpoint. Since the goods are the purchasing power, the value of these goods, as determined by sale in the markets is the amount of purchasing power, in terms of money, that has been created, and this is the amount that the producer receives, if the economy is operating without reservoir

effects. If, through miscalculation, the producer has paid out more to the suppliers of labor and capital services than the value of the goods, Say's Law does not assure him that he will get his money back; it merely brings back to him the money equivalent of the value of the goods produced.

It was mentioned in Chapter 11 that one of the reasons for using the term "production price" rather than "cost of production" was to prevent that quantity, as it is used in this work, from being confused with the cost of production as defined in other ways. The case now under consideration shows why this is necessary, since the production price, as defined for the purposes of our analysis, includes the actual profits of the owners of the enterprise, even where these profits are *negative.* If an item is produced at an incremental cost of $3.00 and is sold for $2.00, the profit is *minus* $1.00 – that is, a loss of $1.00 – and the production price, as we have defined it, is $2.00. Say's Law, as defined in this work, tells us that inasmuch as an item worth $2.00 at the current normal price level was produced, the suppliers of labor and capital services, including the owners of the enterprise, will (in the absence of reservoir transactions) get a net total of $2.00 with which to buy this item – the exact amount needed for the purpose.

Here we have another illustration of the principle that the economic situation as a whole is governed by factors which are quite distinct, and often very different, from those applicable to the individual items that make up the whole. In the production of an individual item, Say's Law gives us no indication of how the producer will fare; he may lose all that he has put into the production process, or he may profit handsomely. In this case the profit component of the production price is indeterminate until the goods are sold. Consequently, the production price in total is not fully determined until after the goods market transaction has taken place. Say's Law is just as valid as ever – that is, the act of production creates the exact amount of purchasing power necessary to buy the goods produced – but we cannot define this amount of purchasing power in terms of money at the production end of the system. In the modern economy, where the exchange transactions are handled through the medium of money, the law is therefore of little assistance in dealing with the production and marketing of individual items.

But in the *general* situation the average rate of profit is essentially fixed. It cannot fall appreciably below the interest rate because the suppliers of capital will divert this capital elsewhere if earnings are too low. It cannot rise appreciably above the interest rate because of the competition between the capital suppliers. Inasmuch as all other components of production price are fixed by actual payments to the suppliers of labor and the services of outside capital, this means that, for the economy as a whole, production price is determined in the production market. Say's Law (Principle III) then tells us that this same amount is available as purchasing power in the goods markets, unless the equilibrium is upset by what we have called a reservoir transaction. Under normal market conditions, therefore, producers as a whole will be able to sell their products for the full production price, including normal earnings on their own invested capital.

The part that the goods markets play in this process is to establish relative values, and thus allocate the total purchasing power among the various items making up the total goods flow. The average producer gets a return which enables him to earn a profit equal to the current interest rate. The enterprise which, in the judgment of the marketplace, has been able to produce above average values from the labor and capital services that it has utilized receives more than the average share of the market proceeds; the one which produces less than the average receives less. This is strictly in accord with Say's Law, because the larger or smaller returns to the producers are exactly matched (in the absence of any net reservoir transactions) by higher or lower prices paid by the consumers. In each case the amount received by the seller is the amount paid by the buyer.

In turning their backs on Say's Law and adopting the autonomous demand concept, the socio-economists of the present day have undoubtedly been influenced to a considerable degree by their sociological bias, since an explanation which attributes our inability to buy as much as we would like to a lack of money or of purchasing power in general rather than to the inadequacy of our production is much more palatable to layman and economist alike. Schemes to distribute more money to consumers in one way or another are always more popular than measures which involve working harder or putting in longer hours. But it is probable that the economists'

exaggerated opinion of the importance and the capabilities of the laws of supply and demand has been an even more potent factor. In their proper field of application the supply and demand principles have been an outstanding success in a branch of knowledge which is, in general, distinguished more by its failures and shortcomings than by its successes, and under the circumstances it is only natural that the extent of the successes should be overestimated.

The truth is that along with the successful applications of supply and demand theory there have been many misapplications. The principles of supply and demand have been applied to problems to which they have no relevance, and this has contributed greatly to the confusion that now exists in several economic areas, particularly such subjects as the origin and magnitude of the total demand for goods, and the true significance of the money supply. As brought out in the preceding pages, the total demand for goods, in the sense in which this term is used in economics, is determined by production, with only limited and temporary modifications by reason of reservoir transactions. The concept of an autonomous demand, determined independently of supply, analogous to the demand for wheat and the demand for shoes, is therefore entirely without substance, and the usual supply and demand analysis is wholly inapplicable to goods-in-general.

A typical example of erroneous application of supply and demand reasoning is provided by Hansen's statement quoted earlier in this chapter, that the demand for goods at the close of World War II was abnormally high because of the shortages resulting from the restrictions on the production of consumer goods that were in effect during the war years. So far as goods-in-general are concerned, this statement is erroneous. The demand for automobiles and for nylon hose was high for this reason, to be sure, but the abnormally high demand for these commodities was made possible only by giving them preference over other goods, and diverting to their purchase as much as necessary of the total available purchasing power. The demand for individual commodities is essentially autonomous, because of this ability to buy more of one commodity and less of another. But the demand for goods-in-general, in the sense that demand has an economic significance, cannot exceed the total available real purchasing power irrespective of whatever shortages may exist.

The demand level that prevailed immediately after the war was not abnormally high in terms of *real* purchasing power; it was high only in monetary terms. This demand was not due to depleted stocks of consumer goods, as Hansen and his colleagues deduced from their supply and demand theories, but to the existence of large amounts of government-created credit instruments which were available for use as money purchasing power; that is, the money purchasing power created by production was being swelled by heavy withdrawals from the reservoirs. *Real* purchasing power was not altered. All that was accomplished was to change the relation between real purchasing power and money purchasing power; that is, to reduce the value of money.

There is no necessary connection between consumer shortages and excess amounts of credit-created money purchasing power, and where one exists without the other, the excess money creates excess demand and causes inflation; consumer shortages do not. This can easily be verified by a wealth of actual experience. Under circumstances where there has been no abnormal shortage of goods, credit measures similar to those utilized in the United States during World War II have been, and are being, utilized freely by governments which desire to provide themselves with purchasing power in excess of the amounts that it seems expedient to raise by taxation. This invariably generates excess monetary demand leading to inflation. On the other hand, shortages of consumer goods likewise occur frequently – even chronically in some countries – but these shortages by and of themselves create neither demand nor inflation.

The cause of excess demand (in terms of money) and money inflation is not the need for goods but the use of money withdrawn from one of the money reservoirs to augment the normal flow of money purchasing power coming from production. What a nation does not have has no bearing whatever on the real economic demand for goods-in-general. It does affect the *desire* for goods, but desire without the ability to buy has no economic significance. The Chinese people probably desire consumer goods just as ardently as their American counterparts, but their economic demand is very much lower, simply because this demand is determined by their production.

An inflationary trend in the price of a single commodity or group of commodities may be overcome by an increase in the supply of these commodities, in accordance with the recognized supply and demand principles, but an inflation of the *general price level* cannot be overcome by an increase in the supply of *all* goods. Additional production does not alter the inflationary unbalance, as the money purchasing power stream is augmented to exactly the same extent as the stream of goods (Principle IX), and the reservoir withdrawals which cause the inflation have the same effect as before. Except to the relatively minor extent that they may be counterbalanced by goods reservoir transactions, net withdrawals from the money reservoirs *always* cause money inflation, and money inflation can *never* take place without such withdrawals.

There is a common impression that inflation can only take place when production is close to the capacity of the existing labor force and existing capital facilities. Galbraith expresses this opinion in these words: "Inflation – persistently rising prices – is obviously a phenomenon of comparatively high production. It can occur only when the demands of the economy are somewhere near the capacity of the plant and available labor force to supply them."[87] From the points brought out in the preceding paragraphs it should be evident that this viewpoint is completely wrong. Money withdrawals from the reservoirs and the accompanying money inflation can take place at *any* level of production. The same is true of wage increases or other increased production costs.

What Galbraith and his colleagues are doing is confusing cause and effect. Money inflation results in an inflow of money purchasing power to the producers during the current period exceeding the outflow to the suppliers of labor and capital services. Except to the extent that wage increases become necessary, or productivity decreases, the excess goes toward increasing profits. Productive operations are therefore abnormally profitable during periods of money inflation, as the records clearly indicate. The natural result is that the producers expand their operations to take advantage of this situation. Thus the correlation between inflation and a high rate of production does not have the significance that Galbraith is attaching to it. The high level of production is a *result* of money inflation, not

a *prerequisite for* that type of inflation. Cost inflation has no effect on production volume as a whole, although it may have significant effects on that of individual enterprises.

As explained in Chapter 1, the essential characteristic of science, the feature that distinguishes it from all other branches of human endeavor, is that it restricts its scope to dealing with those items which are inherently factual in nature, and all of its activities are directed toward reaching conclusions that will meet the ultimate test of comparison with the observed and measured facts. In conformity with this policy, which we are here applying to the economic field, we have identified a variety of factual items that enter into economic life, and have defined them with the precision necessary for factual treatment – for example, we have made the vital distinction between money and real purchasing power. With the benefit of this better understanding of the nature of the various economic factors, we have been able to recognize some important factual relationships of a fundamental nature – the conservation of purchasing power, for instance – that have been overlooked by previous investigators. On the foundation provided by these newly identified basic relations, we have begun the development of a consistent, integrated structure of theory. This development will be extended further in the chapters that follow, but we have now arrived at the point in the analysis of the inflation phenomenon where we can subject some of the conclusions of this analysis to the kind of a test that is required in standard scientific practice.

After the subject of cost inflation is discussed in the next chapter, Chapter 14 will utilize the results of observation to verify the entire chain of conclusions involved in the theoretical explanation of the business cycle. The theoretical sequence of events making up the cycle will be developed in detail, and the pattern thus derived will be compared with the observed pattern of events in booms and recessions to demonstrate how closely the theoretical analysis reproduces the observed events.

## CHAPTER 13

# Cost Inflation

> Today's chronic inflation is all the more uncanny because its nature is difficult to assess. It does not fit into any conceptual cliché but is something new in economic history... Only one thing is plain: slowly but inexorably, everything becomes more and more expensive.[88]

These words from a 1960 book by a German economist epitomize the lack of understanding of the inflation phenomenon that has bedeviled twentieth century economic thought. The whole world is in the grip of something that simply does not fit into any pattern that current economic theory is able to assign to it. Almost everyone regards inflation as an evil, but neither economist, government official, nor layman has a clear idea as to what causes it, or even just what it is. As a result, there is a widespread tendency to use the term "inflationary" in a pejorative rather than a descriptive sense. Those who are opposed to a particular action condemn it as inflationary (that is, it is bad), while those who favor it are equally firm in their insistence that it is not inflationary (that is, it is good).

There is no indication that the situation is improving, either in understanding or in the results of attempts to deal with the problem. These comments indicate how matters now stand:

From Samuelson and Nordhaus:

> There is wide disagreement among economists about the nature of inflation.[89] And, indeed, the problem seems to be getting worse over time, as higher and higher unemployment rates are necessary to restrain inflation.[90]

From Heilbroner and Thurow:

> There is no general consensus among economists as to the causes or even the mechanism of inflation comparable to the consensus that exists about many other kinds of problems.[91]
>
> Inflation has become intertwined with the problem of depression because we do not know how to control an inflationary propensity short of sending the economy into a tailspin.[92]

The truth is that economist and layman alike have allowed themselves to be confused by an economic complexity that does not actually exist. The question as to whether or not an economic action is inflationary is a plain matter of fact. Inflation, as it has been defined herein, and as everyone knows without the need for any specific definition, is an increase in the general price level; that is, an increase in the ratio of purchasing power expended to goods received. Hence if any action increases the flow of money purchasing power relative to the production of goods, it is inflationary – it raises the market prices level. If it decreases this ratio, it is deflationary – it reduces the market price level. If it has no effect on the ratio, either because it does not alter either component or because it affects both equally, then it is neither inflationary nor deflationary – it has no effect on the market price level. Whether or not the avowed purpose of the action meets with our approval is completely irrelevant.

The whole subject of inflation can be reduced to easily understandable terms by making use of the cooling system analogy. As pointed out in Chapter 8 where this analogy was first introduced, the functional correlation is very close. Indeed, if we make the two small modifications of the usual gasoline engine cooling system that were previously described we will have essentially perfect correspondence between it and the economic system from the standpoint of general operation.

We can get a clear insight into the manner in which economic inflation originates if we simply take a look at what would be required if we deliberately undertook to "inflate" the cooling system. Such an "inflation" is, of course, a decrease in the BTU per gallon of water flow, equivalent to a decrease in the value of money (goods per dollar) in the economic system. One way of accomplishing the result would be to pump water our of the auxiliary tank that we installed, and thereby swell the stream going to the radiator. This is analogous to the money inflation that we examined in Chapter 12. Or alternatively, we could change the setting of the thermostat that governs the relation between the water flow and the amount of heat to be removed. This alternate method of causing inflation in the cooling system is analogous to the economic process that we have defined as cost inflation, which is similarly due to an arbitrary action

in resetting the economic "thermostat" that governs the production price – chiefly by the establishment of wage rates and the imposition of business taxes.

Because of the finite size of the auxiliary water tank, withdrawals from the tank can take place only temporarily and in limited amounts. *Continued* use of this auxiliary system is therefore possible only on a cyclic basis, in which the tank is periodically refilled from the main stream. "Inflation" of the cooling system by this method must therefore be followed by "deflation" in a "cooling cycle" analogous to the business cycle. No such limitation applies to the adjustment of the thermostat. Ultimately the maximum capacity of the pump or the piping would be reached, but until then the "inflation" could continue indefinitely, without any requirement that it must be followed by a "deflation."

The situation in the economic system is almost identical. For purposes of the discussion of cost inflation in this chapter, the most significant points brought out by the cooling system analogy are (1) that cost inflation and money inflation are two separate and distinct economic phenomena, even though both have the same ultimate result: they raise market prices; (2) cost inflation results from deliberate arbitrary actions, such as wage increases or imposition of business taxes, which raise the price level directly (reset the economic "thermostat"), and (3) there is practically no limit to the extent of the inflation that can take place by this means.

Much of the current confusion with respect to the causes and effects of inflation is due to the lack of proper differentiation between cost inflation and money inflation. The man-in-the-street often associates the word "inflation" with currency inflation, and it calls to mind such events as those which occurred prior to World War II in China and after the war in Germany, where the currency depreciated at an accelerating rate until it was finally worth no more than its value as waste paper. What this amounts to is government bankruptcy, and it comes about in the same way as individual bankruptcy; that is, the government tries to live on credit, and continues spending in excess of its income until finally its credit collapses.

Few governments have the ability and the fortitude to meet crises such as major wars with sound fiscal measures, and under these conditions they nearly always resort to heavy use of credit, with the

hope that the situation will not get out of hand. Sometimes, as in the World War II experience in the United States, this hope is justified and the economy pulls through with no more than a severe money inflation; sometimes there are narrow escapes, as in the case of the Civil War greenbacks, which depreciated to approximately 35 cents to the dollar before recovery set in; and sometimes the gamble loses, as in China and Germany.

The economists recognize that our current problem is not currency inflation, but, as a rule, they fail to distinguish clearly between cost inflation and money inflation. In fact, there are even contentions to the effect that it is not *possible* to distinguish clearly between the two. For example, William G. Bowen, in a book entitled *The Wage-Price Issue,* tells us that it is impossible to allocate the responsibility for inflation between the "demand induced" and the "cost induced" components, and he concludes that it "is clearly *not* possible... to supply a clear, unequivocal answer to the question of who or what is the "cause" of upward price adjustments."[93]

As a result of the lack of differentiation between these two types of inflation there has been a general tendency on the part of individual economists to concentrate on one of them, often concluding that it is the *only* source of inflation. Keynesians tend to concentrate on the demand mechanism, in line with Keynes' strong emphasis on demand. Moulton, on the other hand, insisted that inflation is a cost phenomenon. Relying more on empirical studies than on the theoretical approach favored by the Keynesians, he assembled an impressive mass of data to correlate general price rises with wage increases. But instead of interpreting this as an indication that wage increases are *a* cause of inflation, an irreproachable conclusion, he interpreted it as an indication that they are *the* cause of inflation. "Our conclusion," he says, "is that rising costs constitute the only *pressure* toward higher prices."[94]

Moulton's principal argument in favor of his conclusion is interesting, as it illustrates just what is wrong with much of the relatively minor effort that the economic profession does make to provide factual support for its conclusions. He points out that, except in a quite insignificant proportion of the total transactions, "the goods are priced *before* they reach the hands of merchants and dealers," and

that the producers "establish prices which will cover costs and leave a necessary margin for profits." From this he concludes that there is "no support for the thesis that consumer demand is the *propelling* force in price advances... Rather the line of motivation runs from the cost side. Rising wages and other costs lead to compensating advances in wholesale prices, which in turn lead to markups through distributive channels to the ultimate retail outlets."

It is evident that price increases can, and do, take place by means of this mechanism. This is cost inflation, as we have e defined the term. But Moulton has made a mistake (one which is unfortunately all too common in physical science as well as in economics) by stopping as soon as he arrived at *an* explanation of price increases, and not completing his analysis to determine whether there are *other* explanations. In this case, the mere fact that business enterprises frequently operate for a time at a net loss is sufficient evidence in itself to show that the producers are not in a position to "establish prices which will cover costs and leave a necessary margin for profits." Obviously some factor other than production costs is involved in market price changes. Reduced production costs certainly are not responsible for the catastrophic fall of the price level in a depression – one of the characteristic features of depressions is that for many producers the prices drop *below* the zero profit level.

The facts cited by Moulton with respect to the retail price mechanism must therefore be open to a broader interpretation than that which he has placed upon them, and, indeed, it is not difficult to see where he has gone astray. It is true, as he states, that goods are priced before they reach the retail merchants, and that all the latter do is to add their customary markups, but what he fails to recognize is that these preestablished prices are only *tentative.* In most of the American retail markets the consumers do not normally have an opportunity to bargain over the prices, but *they have the opportunity to accept or reject them.* If they will not, or cannot, buy in sufficient quantities at the established prices, the producers must reduce those prices and content themselves with smaller profits. If the acceptance is better than anticipated, they can give consideration to increasing the prices and improving their profit margins. Thus, regardless of the fact that the operation of the pricing mechanism is in the hands of

the producers, it is the consumers who have the ultimate control. In essence, the market system is simply a gigantic Dutch auction.

Unless the increase in price is exorbitant, the average consumer does not ordinarily refuse to buy something that he definitely wants, if he has the purchasing power readily available. He may grumble, but he buys just the same. If the total purchasing power remains unchanged, the higher price that has to be paid for this item means that consumers must reduce their purchases of other items. This forces a reduction in the prices of these other items, and initiates a competitive round of repricing that ultimately arrives at a new equilibrium between the prices of different goods, leaving the average price level just where it was to begin with. But if the amount of purchasing power available to the consumers changes in parallel with the price increase, the result is different, as in this case the average price level adjusts itself to the new amount of purchasing power.

This explains the very different effect of the two basic types of inflation on real income. The wage increases and associated items that cause cost inflation give consumers in general the exact amount of additional purchasing power that is necessary in order to meet the inflationary rise that takes place in the market price level; that is, *real* income is unchanged. No alteration of consumers' buying habits is therefore necessary, aside from the effects of the transfer of income from certain groups to others because of the selective nature of the wage increases. Money inflation, on the other hand, reduces the real purchasing power of the recipients of earned income – wages, rent, interest, profits, etc. – by the amount of goods diverted to those who get the benefit of the money purchasing power drawn from the reservoirs.

Business as a whole is similarly unaffected by cost inflation, as this adds to the income of the producers in the same measure that it adds to their costs. Money inflation likewise adds to income, but has little effect on costs, hence business enterprises are abnormally prosperous during a boom, but when this situation is reversed in a recession, and income drops without a corresponding reduction in costs, they suffer, sometimes very severely. It should be remembered, in this connection, that only a small percentage of the total income of a business finds it way into the profits of the enterprise under normal conditions, and a relatively small drop in gross receipts without a

corresponding reduction in costs is therefore sufficient to wipe out profits altogether. Mitchell poses a question here. "But granted so much," he says, "why cannot businessmen defend their profit margins against the threatened encroachments of costs by marking up selling prices... Once squarely put, this question is not easy to answer squarely. It sounds well to say that the advance of selling prices cannot be continued indefinitely. But this plausible statement challenges the abrupt question: Why not?"[95]

Mitchell's inability to see the answer to this question was another result of the economists' insistence on viewing the establishment of the general price level as a composite of the market prices of the individual goods, and therefore a matter of supply and demand. This is another of the places where they have arrived at wrong conclusions because they apply supply and demand reasoning to situations in which supply and demand are not relevant. The concepts of supply and demand are not applicable to goods-in-general because in *real* terms, the only measurement that is meaningful in this connection, the supply of goods-in-general (the goods as goods) is the demand (the goods as purchasing power).

Once wages are set and the most efficient production methods have been put into effect, there is nothing more that the producers can do to influence the general price level, and their own individual prices must be consistent with this general level regardless of the effect on their profits. If the general level of production costs rises because of wage or tax increases, they can raise their prices accordingly, since the additional money purchasing power necessary to sustain the higher prices is automatically available. Price increases of this kind (cost inflation) *can* be continued indefinitely. But price increases *cannot* be made in the face of deflationary conditions of the kind to which Mitchell referred. Indeed, price decreases are unavoidable, because the money purchasing power flowing to the goods markets under these conditions is not sufficient to maintain the existing price level. Businessmen cannot do anything about this price situation. They simply have to conform to the requirements of the markets.

Summarizing the foregoing discussion, we may say that cost inflation causes a *permanent* increase in the price level, but this type of inflation is not damaging to the economy as a whole.

Money inflation is damaging, but *not permanent;* it must inevitably be followed by deflation (although cost inflation proceeding concurrently may prevent an actual fall in the price level). Either type of inflation creates serious inequities between individuals and between economic groups.

Since there is more than one type of inflation, there is also more than one kind of economic stability that can be achieved by eliminating the causes of inflation. Usually the word "stability" is interpreted in terms of business stability; that is, elimination of the cycles of boom and recession. As pointed out in Chapter 11, the answer to *this* stability problem is to take compensatory action to offset any unbalanced flow into or out of the money reservoirs. Such action will not keep the market prices at any fixed average level, but will keep market prices in balance with production prices, so that the rate of money purchasing power flow will be the same in all parts of the circuit, and there will always be enough money purchasing power entering the markets to buy the full amount of current production at the full production price, including normal profits.

This kind of stability benefits almost every participant in economic activity, at least in the long run, and, as will be brought out later, there are available practical methods of accomplishing the stabilization which are quite unobtrusive, and have no undesirable collateral effects. Furthermore, business stabilization is a prerequisite for development of any practical program for maintaining employment at the optimum level. It does not appear, therefore, that there is any reasonable doubt as to the advisability of putting such a program into effect, and it has been assumed for purposes of the subsequent discussion that the "decision makers"–the general public, in this instance–will accept this kind of stability as a desirable economic objective.

The situation with respect to maintaining a stable market price level is quite different. Heretofore it has been quite generally assumed that economic equilibrium and stability of the price level are one and the same thing, but this analysis shows that stability is attained when market price conforms to whatever price changes occur at the production end of the mechanism, so that market price and production price are always equal. Under conditions such as those which have existed in recent years where the wage cost per

unit of production is continually rising – that is, cost inflation is taking place – the market price level will also continue to rise even if the business cycle is eliminated. In other words, stabilization of the money purchasing power flow eliminates *money inflation,* the kind of inflation originating in the goods markets, but it does not eliminate *cost inflation,* the kind of inflation originating in the production market. If it is desired to eliminate cost inflation as well as money inflation, and thus establish a stable price level in addition to a balanced flow of money purchasing power, it will be necessary to take some definite and systematic action to prevent wages from rising any faster than general productivity.

Here we arrive at a question of public policy which is outside the field of economic science. Unlike money inflation, which works to the detriment of the majority, in the long run, and has few friends, cost inflation due to wage increases takes from some for the benefit of others, and therefore has powerful support from those who are benefited, particularly labor union members and those who are in a position to keep pace with union wage increases – supervisory employees in the high wage industries, for example. Ironically the "high wage" policy also receives much support from the very individuals who are its chief victims. The unorganized worker generally feels that if the union member receives a pay increase, he will ultimately get one too, not realizing that when and if this increase materializes it will do no more than make up for the price rise due to the previous .union wage increases, and will merely put him back in the same relative position that he occupied to start with, whereas the favored groups have prospered at his expense in the meantime. Similarly, socially conscious groups, such as the school teachers, who, whether or not they are unionized, are inclined to support all efforts that are made to raise the pay of the industrial workers, not realizing that their own "low pay scales" about which they complain so bitterly, are not low by any absolute standard, but are relatively low simply because they have been outdistanced by the inflationary processes which the teachers themselves have assiduously, if unintentionally, promoted.

The explanation for this absurd situation, in which large economic groups are exerting their best efforts, without any conscious altruistic

motive, to reduce their own economic well-being by extending special favors to other groups, lies in the general acceptance of the totally fallacious idea that wage increases are secured at the expense of the employers. As pointed out earlier, it is conceded by almost all of those who have made a full-scale study of the matter that the *average* compensation of the suppliers of capital, in percent return on the investment, is, and of necessity must be, fixed by considerations which operate independently of the price of labor. It therefore follows that, irrespective of what may take place between any individual employer and his employees, the total compensation of the suppliers of capital services depends entirely on the amount of capital employed, and it cannot be altered by wage manipulation. As expressed by J. M. Keynes, "The struggle about money-wages primarily affects the *distribution* of the aggregate real wage between different labour-groups, and not the average amount per unit of employment which depends... on a different set of forces."[96]

Wage increases, then, are not secured at the expense of employers as a whole. If the increases are selective, the benefits to the favored workers are secured at the expense of the workers who do not participate in the increase and the individuals who receive fixed money incomes. If all workers receive comparable increases there is no benefit to any except what can be gained at the expense of the fixed income recipients – bondholders, pensioners, insurance policyholders, and the like. In any event, this gain is relatively small, as the fixed component of the national income is a minor fraction of the total, and the inflationary impact on the recipients of these fixed incomes is being counteracted by an increasing number of devices such as "cost of living" adjustments for pensioners, convertible bonds, inflation clauses in contracts, "indexing" for inflation, etc. As a first approximation, therefore, the existence of incomes that are fixed in monetary terms can be disregarded in a mathematical examination of the relation between wages and prices.

In undertaking such an examination, let us look at the general situation in which the average wage per unit of output is W, the average investment per unit of output is I, and the average cost of the services of capital is x percent of the value of the capital utilized. All production costs can be reduced to labor and the services of

capital, and the total production cost (production price) under the circumstances described is therefore W + xI. The investment per unit of output in the short term situation is fixed, and if we denote the ratio of W + xI to W by the symbol a, we can express the production price per unit of output as aW, and the capital cost component as (a-1)W. Since the normal market price is equal to the production price, the normal market price is also aW.

In discussions of the question as to the effect of higher wages on market prices, the statement is frequently made that even though the wage increase does raise prices, the worker makes a proportional gain at the expense of other elements of production cost, such as taxes and materials, which remain unchanged. But in reality, payments for such items are merely indirect payments for labor and capital services, and since the cost of capital is determined by considerations which are independent of the wage rate, such statements as the foregoing amount to nothing more than assertions that workers who receive wage increases gain at the expense of other workers whose pay is not increased. This is true, of course, but it has no bearing on the question that we are now examining, the question as to the effect of an increase in the *average* wage rate. It should also be noted that the cost of capital services is fixed in *real* terms, and changing the money labels by raising wages does not enable making gains at the expense of the suppliers of capital.

Returning now to the mathematical development, if wages are increased from W to mW, this causes the normal market price level, the price of goods-in-general, to increase by a factor which we will call n. Our question, then, is: What is the relation of m, the increase in wages, to n, the increase in prices. In approaching this question, we note first that the investment I is in the form of capital goods, and because of the increase in the price of goods-in-general these capital goods increase in monetary value proportionately, raising the investment to nI. The relation between normal market price and the two components of production price then becomes

$$mW + (a-1)nW = anW$$

In the short term, where a is constant, this equation reduces to m = n, which tells us that an increase in wages produces an equivalent increase in prices, and the normal price level at any specific rate of

productivity is proportional to the average wage. The level of *money wages* in the economy as a whole therefore has no effect on *real wages,* the wage in terms of ability to buy goods.

In spite of the fact that Keynes arrived at the same result from different premises, this finding will be vigorously resisted, both because most people do not *want* to believe it, and because to the superficial observer (and most of us *are* superficial observers of the things we have not studied in detail) it seems obvious that the workers who secure a wage increase *have* made a gain at the expense of the employer. But this is just another outcropping of that notorious logical error so common in the economic field: failure to recognize that what is true of a part is not necessarily true of the whole. A business enterprise does not operate in a closed compartment of its own; it operates as a part of the general economy, and it operates under very rigid rules, one of which is that in order to survive it must compensate the suppliers of capital services in amounts that are commensurate with the value of the services of wealth, as defined earlier.

Income cannot be diverted from suppliers of capital services to workers in any more than a very limited and temporary way without coming in conflict with this rule. The average business enterprise cannot absorb the added cost of a wage increase by taking a smaller profit, even if the company's executives would prefer to do so. It must compensate for the loss in net revenue in some manner; otherwise the necessary inflow of new capital dries up and the business soon ceases to exist.

When the wage settlement is industry-wide, an immediate price rise is even more certain. A good demonstration of this was provided some years ago when the federal government attempted to prevent a wage increase in the steel industry from being followed by a price increase. The steel industry's announcement of an immediate increase was furiously assailed by every means, legal and extra-legal, available to the administration, and the industry was forced to withdraw the higher prices. Yet only a few months later, the same administration bowed to the inevitable and meekly acquiesced in an increase dressed up in a slightly different form. The attempt to prevent the increase was not only futile, it was doubly futile, inasmuch as all that would have been accomplished had it been successful would

have been to increase the price of something else, rather than the prices of steel and steel products. *Some* price must rise when money purchasing power is arbitrarily increased.

Even though it is not within the province of economic science to arrive at a decision on a question such as that of whether some control should be exercised over wage rates, it is definitely appropriate for a scientific work to point out the facts upon which such a decision should be based. This is all the more desirable when the facts, such as those that have just been discussed, are so generally unknown or deliberately ignored.

A point that should be taken into consideration in this connection is that some of the economic developments of recent years have resulted in a significant change in the impact of cost inflation. In earlier eras there was a tendency to look upon the effects of such inflation with equanimity, on the assumption that the principal losses were suffered by the recipients of fixed incomes, and these individuals, being members of the wealthier classes, could presumably absorb the losses without too much hardship. The great increase in life insurance in the past few decades, the rapid growth of pension programs, and the widespread sale of government bonds in small denominations have completely changed this picture. Today a large proportion of those who are the principal victims of inflation of any kind are in the middle and lower income brackets. In this connection it should be noted that while the amount of gain to the workers at the expense of the fixed income recipients is quite small in proportion to the extremely large total of wages and earnings on equity capital, this amount is a very important item when applied against the much smaller total of fixed income.

It should also be realized that the improvements in productivity which take place in any particular industry – the automobile industry, for example – are not exclusively due to increased efficiency on the part of the labor and management in this industry. On the contrary, they are primarily, sometimes entirely, attributable to events that have occurred elsewhere: improvements in the tools and equipment that are supplied to this industry by thousands of other producers, more efficient production on the part of other thousands of producers who supply the industry with materials of one kind or another,

perhaps discoveries made in our university laboratories, certainly the efforts of the teachers who have educated the individuals that are responsible for the improvements, and so on, almost without end. The annual increase in productivity that we regularly experience is the result of continued interrelated efforts on the part of all segments of the economy.

It is rather generally believed that the process of bargaining between employer and employees in any enterprise or industry is a matter of arranging an equitable division of the products of their joint efforts, and the current system of wage negotiation in the United States is based on this premise. If the employees and stockholders of each enterprise consumed their own products, this belief would have considerable justification, but the participants in the modern business enterprise do not divide their own products. They divide the buying power – that is, the values – of those products, and those values are not inherent in the products. They are mainly created by the community as a whole, not by those who supply the labor and capital in the individual enterprises.

Here is one of the reasons why it was necessary to go into so much detail in discussing the basic elements and concepts of economics in the preceding chapters. The nature of economic value is by no means self-evident. Without taking the time to analyze the subject, one can hardly be expected to realize, for instance, that the value of non-necessities is determined almost entirely by the productive efficiency of those who produce the necessities. Yet it is easy to see that this is true. If Mozart or Schubert were alive today, their compositions would be worth millions instead of the trivial sums that these composers actually received, not because their inherent merit would be any different, or because today's public has any greater appreciation of musical masterpieces, but simply because the producers of the necessities of life have increased their productivity to such a degree that high values can be placed on non-necessities.

The values of necessities are more directly related to the productive efficiency than those of non-essentials, but this gives no more support to the idea that the workers and their employers are dividing up what they produce, as the relation is inverse; that is, the less efficient a basic industry is, the greater the market value of its product.

Many, perhaps most, readers will take exception to this statement because of the prevailing opinion that the profitability of an industry depends on its productive efficiency. But there are two things wrong with this general opinion: first, it is not true; second, it is not relevant to the point at issue. The profitability of the *individual enterprise* depends on its relative productivity as compared to that of its competitors, but the general level of profitability in the *industry as a whole* is dependent on a large number of factors not related to efficiency. And in any event, wages are not paid out of profits; they are paid out of income. The income of an industry for a given volume of production depends on the market price, which in turn is determined by the cost of production. Inefficient production raises the cost, which raises the selling price, which raises the total producer income. The demand for the products of these basic industries is relatively inelastic. Consequently, any increase in costs, such as that due to an increase in the wage rate, can be, and promptly is, matched by a corresponding increase in market price, which brings back to the producer the amount of money that is required in order to pay the higher wage.

What this means is that the wages are not adjusted to the income of the industry, in accordance with the assumption on which the prevailing method of establishing wage rates is based. The income is automatically adjusted to the wage settlements. Thus the participants in a wage negotiation are not arriving at a decision as to how they are going to divide the products of *their* efforts; they are being permitted to decide how much they are going to draw out of the *general production* of the community. These comments apply to *all* agreements between employers and employees on rates of pay, irrespective of the type of work involved or the basis of payment, not merely those arrived at by means of the "bargaining" procedure.

In the light of the foregoing facts, together with the points previously brought out concerning the impact of the inflationary burdens, it seems apparent that the nation should at least begin giving some consideration to methods of controlling wages and salaries, not only to prevent them from rising faster than productivity, and thus inflating the price level, but also to insure that *all* those who work for a living participate in whatever increases may be appropriate, rather than allowing the benefits of the increased production, toward which

all have contributed, to fall mainly into the hands of certain favored groups. Obviously, however, this is a highly controversial subject, and it has therefore seemed advisable to limit our consideration of practical inflation control measures in the later chapters to the elimination of money inflation only, leaving this more sensitive subject of cost inflation for treatment elsewhere. The question of wage and salary controls will, however, receive further attention in connection with other aspects of the economy that are affected by a lack of balance in the wage structure.

Some further consideration of the inflationary aspects of various economic actions will be appropriate at this time in order to round out the theoretical treatment of the subject. Inasmuch as the discussion on Chapter 12 was directed mainly at money inflation, the kind of inflation that is responsible for the business cycle, with its accompaniment of depressions, recessions, and assorted economic ills. we will now be concerned primarily with cost inflation. As pointed out in the preceding chapter, inflation is simply the automatic reaction of the economic mechanism to attempts to get something for nothing. It enforces the conservation law and effectively frustrates all of those attempts. But the conservation law applies only to the situation as a whole. It does not prevent certain individuals from getting something for nothing *at the expense of other individuals.*

Actions of the kind that cause money inflation are aimed at getting *unearned income*–pure something for nothing–for their beneficiaries. Actions of the kind that cause cost inflation are mainly aimed at getting *more earned income* out of nothing; that is, increasing the income of those who participate in the production process without any actual increase in production. Inasmuch as the conservation law requires the books to be balanced from an overall standpoint, those who earn income must pay the bill in either case, but as a whole they also receive the benefit of the actions that cause cost inflation, and these actions therefore accomplish nothing except to favor certain income earners at the expense of others. Money inflation, on the other hand, takes from those who earn income in order to provide unearned income for the beneficiaries of the inflationary measures. Real purchasing power (ability to buy goods) cannot be created out of nothing, in spite of the numerous assertions

to the contrary that emanate from front rank economists. It can come only from production. It therefore follows that if any purchasing power is made available to individuals or agencies in any other manner than as payment for participation in the production process, that gratuitous purchasing power must come out of the earnings of those who do participate in production either as suppliers of labor or as suppliers of the services of capital.

The mechanism of the inflation processes can easily be seen by inspection of the economic flow chart. As the chart indicates, the dilution of the money purchasing power stream by money inflation occurs after the act of production, and it therefore creates an unbalance between market price and production price. Because of the unearned money injected into the stream the consumer has to pay a price in the goods market that is higher than the price established at the production end of the mechanism by the payments for labor and the services of capital. *The buying power of earned income is therefore reduced.* In cost inflation the dilution of the money purchasing power stream occurs before the act of production, and it therefore affects production price and market price equally. In this case then, *the average buying power of earned income is not reduced.* All that has been accomplished, aside from favoring some individuals at the expense of others, is to change the money labels.

It might be well to mention that the term "earned income," as used herein, refers to payments for labor or the services of capital utilized in production. This term is frequently restricted to income from labor only, but from a purely economic standpoint, labor and the services of capital are equivalent items, differing only in the time factor. The definition which restricts the adjective "earned" to labor only is based on another of the *social* distinctions that have made their way into economics, much to its detriment.

The remainder of this chapter will present a brief survey of the principal economic actions that produce cost inflation or deflation. Some of these items have been discussed previously, but we will now want to look at them from a somewhat different angle. Heretofore we have been interested primarily in their effect on the general operation of the economy. Now we will examine them specifically from the standpoint of their effect on the price levels. In beginning

this discussion it will be desirable, as a matter of clarifying the general background, to give some consideration to two kinds of economic actions that are *not* inflationary.

One of these is an increase or decrease in the *volume of production.* According to Principle IX, the volume of production has no effect on the price level, and hence changes in volume hive no inflationary or deflationary effect. The general impression that we can take care of an excess of money purchasing power by producing more goods is totally wrong. Such additional production adds equally to the purchasing power and to the volume of goods produced, and does not change the ratio between the two.

*Price increases,* which are popularly viewed as the principal villains on the inflationary stage, likewise have no inflationary effect, and all of the effort that is put forth to block them, whether it be a strident call for "restraint" emanating from the White House, or a boycott of the local supermarket organized by aroused housewives, is completely wasted. As has been emphasized throughout this work, the general market price level is a resultant. It is the quotient that results from dividing the rate of flow of money purchasing power by the rate of production of goods. If the President succeeds in intimidating the steel companies to the point where they roll back the price of steel, or if the housewives succeed in persuading the supermarket to reduce the price of beef, all that is accomplished is to raise the price of something else, because those actions do not change the rates of flow in the two economic streams, and without such a change the general price level must stay just where it is.

The causes of inflation are actions that increase the flow of money purchasing power without a corresponding increase in the volume of goods produced. Price increases are simply the *result* of such actions. They do not increase the flow of money purchasing power and therefore have no inflationary effect. But wage increases – increased many compensation for the same amount of productive work – *do* increase the flow of money purchasing power and are therefore inflationary.

Here, again, as in so many other places in the pages of this book, the conclusions of the analysis will be distressing to a great many persons. According to our findings, wage increases, which are very popular,

are inflationary, and raise the cost of living for everyone who does not receive the increase in pay, whereas price increases, which are universally detested, have no adverse effect at all, and are merely a means of putting into effect the inflation due to the wage increases and other inflationary actions. Blaming the manufacturers and merchants who raise their prices instead of the individuals who demand and receive more pay is like blaming the tax collector who presents us with a high tax bill instead of the Congress that levied the tax.

In current practice, the negotiation of a new pay scale for any large group is normally accompanied by a rather heated controversy as to whether the proposed changes are or are not inflationary. The truth is that *all* wage increases are inflationary; that is, they increase the general price level. However, the average productivity per man hour is slowly rising, and this has the opposite effect, reducing the price level. If the average *nationwide* increase in wages does not exceed the average increase in productivity, these oppositely directed effects on the price level cancel each other, and in this sense it may be said that wage increases thus limited in amount are not inflationary. No one has to pay any higher prices than he did previously. However, if the increase is selective, as it always is under present conditions, it is inflationary from the standpoint of those who do not receive the benefit of the higher wage, as it prevents them from getting any of the additional goods that are being produced.

The foregoing conclusions as to what the effects of price and wage changes theoretically *must be* are amply confirmed by a host of experiments that demonstrate what these effects *actually are.* Throughout the world, nations are faced with rising prices because they are trying to maintain a higher standard of living than their production will support. The most common governmental response to public complaints about high prices is to raise wages and forcibly "roll back" the prices of critical items. Of course, these actions are not officially labeled as economic experiments. Nevertheless, they *are* economic experiments; they are actions taken in the expectation of accomplishing certain specific economic results, and since there is no advance assurance that they will succeed, they are experimental. The mere fact that no one actually says, "This is an experiment." does not alter the situation. The results of these oft-repeated experiments are

always the same. "Price controls" do not keep the general price level down, and wage increases cause further inflation. No country ever halts its inflation by these easy and popular measures. The only effective remedy is to bring income and expenditure into balance by increasing production or by some kind of a program that brings expenditures down to the level that the existing production can support.

One of the principal criteria by which scientists judge the validity of the results of an experiment is the "reproducibility" of these results; that is, whether other workers who carry out the same experiment arrive at the same results. It is therefore worth noting that the economists, and the governments that they advise, are not only undertaking a wide variety of economic experiments, in spite of their insistence that meaningful experimentation is impossible in economics, but they are also, in many instances, establishing a remarkable record for reproducibility. The results of the myriad of economic "something for nothing" schemes, including the attempts to combat inflation by wage increases and price controls, are *perfectly* reproducible; they *never* work.

Increases in social security payments, unemployment compensation, welfare, etc.–transfer payments, in the language of the economists–also add to the total flow of purchasing power and are inflationary. In this case, however, there is no *net* inflationary effect if the funds are obtained by taxation or non-inflationary borrowing, inasmuch as these measures reduce the money purchasing power available to consumers, and are deflationary. If the transfer payments are financed by borrowing from the banks or by issuing currency there is no offsetting deflationary effect, and the transactions as a whole are inflationary.

A higher productivity rate, more production per equivalent man hour, is deflationary, inasmuch as it reduces the labor cost per unit of product; that is, it lowers the production price, as that term is used in this work. The distinction between increased *volume of production* and increased *productivity* should be recognized. A greater volume achieved by working more hours adds as much to the purchasing power stream as to the goods stream, and it therefore leaves the price level unchanged. An increase in productivity, on the other hand, adds to the volume of goods but not to the purchasing power

stream, and thus reduces the price level. Higher productivity, if it can be achieved, will offset some of the cost inflation resulting from wage increases or other causes, while conversely, a decrease in productivity, or a slowing of the normal rate of increase, will aggravate an inflationary situation.

An increase in business taxes adds to production costs in the same manner as an increase in wages, and therefore results in cost inflation. The ultimate incidence of a tax on business is almost identical with that of a sales tax, but since the business tax is concealed in the price of the products, and is not usually recognized as a tax by the consumer who pays it, whereas a sales tax is very much out in the open, the tax-levying authorities prefer to tax business to as great an extent as they consider feasible. A somewhat amusing side effect is that many of those who are strongly opposed to sales taxes because of their "regressive" nature are among the most ardent supporters of taxes on business, which are even more regressive, as they are not subject to any of the exemptions that are usually introduced to soften the impact of sales taxes.

To most people it seems obvious that if taxes are levied on business enterprises they are paid by those businesses. The economist realizes that this superficial view is wrong; that business enterprises, as such, do not and cannot absorb any of the costs that they incur. All such costs must ultimately be borne either by the customers or the stockholders of the enterprise. But the inexact methods of the economic profession have been unable to produce a definitive answer to the question as to which of these two groups actually pays the tax. Samuelson expresses the uncertainty in these words: "Economists are not yet in agreement on final results. Some think the corporate income tax falls mostly on the consumer, some argue that it falls mostly on stockholders or capitalists. Some split the difference between the two. Some toss a coin. And some throw up their hands in despair."[97]

The concept of the isolated producer can be of considerable assistance toward getting a clear view of the incidence of the business taxes. As explained in Chapter 11, this hypothetical isolated producer operates in the same manner as the average producer in the individual enterprise system; that is, it must obtain all labor and capital services from private suppliers, it must compensate the suppliers of

capital at the current rate of interest, and it must distribute all of its income, actually or constructively, to the suppliers of labor and capital services, so that the result to the productive enterprise itself is zero. It is clear from the points brought out in the preceding pages regarding the operation of this isolated producer that any change in production price must be accompanied by an equivalent change in market price, and that the income from sales of goods must therefore necessarily equal the expenditures for productive services,

Inasmuch as the rate of payment for capital services is fixed, neither wage nor tax increases can be made at the expense of these payments. The full amount of any cost increase must therefore be added to the market price. No "restraint" on the part of the producing organization itself, or forcible action by the government to hold down prices, can alter this situation, because it is the additional *payments* for wages and taxes that swell the money purchasing power stream, and thereby raise the price level. Unless some offsetting action, such as the imposition of higher consumer taxes, is taken to absorb the additional money purchasing power generated by the tax increase, prices *must* rise.

As the conditions under which this isolated producer operates are also those that are applicable to the average producer in the American economy, these conclusions also apply to the existing economic situation. *Business taxes are paid by the consumers.* The question then naturally arises, Why do most economists fail to recognize this fact? Reynolds gives us an explanation that throws some light on the situation. Speaking of what he calls the "traditional view" that these taxes are paid by the stockholders, he says:

> The reasoning behind this conclusion is simple; under either monopoly or competition, the intelligent business manager will adjust his production and selling price to make maximum profit. It will not pay him to alter this adjustment, even though the government decides to take away half his profit in taxes.[98]

It seems almost incredible that such an argument would be raised in all seriousness, inasmuch as it rests on the preposterous assumption that an additional cost imposed on his competitors will not alter the business manager's estimate of the price that he can charge for his product. Everyone knows that the competitive process is geared to the rate of profit, and the economists, at least, recognize that the

average profit must approximate the interest rate, with only limited modifications depending on the current stage of the business cycle, because of the mobility of capital. If average profits fall below this competitive level for *any* reason, the competitive pressure relaxes. Prices then can be, and of course are, raised to the point where the normal profit rates are restored, a fact of business life that can easily be verified by a look at the record. This means that the *entire* amount of an addition to the business tax is promptly added to the price paid by the consumer.

Even without the analytical aids developed in this work, such as the concepts of the isolated producer and the conservation of purchasing power, the ultimate incidence of the tax should be clear to anyone who faces the issue squarely. It is hard to avoid the conclusion that those who contend that the tax is paid, in whole or in part, by the owners of the business are being influenced by their emotional reactions: their conviction that the owners – the "capitalists" – *ought* to be taxed.

The basic reason for this inability to understand the tax situation is a distorted view of the position of the producer – personified in the owner or manager of the producing enterprise – in the operation of the economy. To the economist, the producer is in the driver's seat. It is he who makes the decisions. It is he who determines what he is going to produce, how much of that product his enterprise will turn out, how many workers he will hire, what he will pay them, and what price he will place on the product. Much of the antagonism which the academic economist displays toward business, particularly toward big business, is due to his distaste for the criterion by which he believes that these business decisions are made: the "profit motive," as he calls it.

But in the real world very few of the economic "decisions" that the businessman makes are decisions in the sense in which the economist is using the term. The only major economic decision that he actually makes is whether or not to undertake production of a particular kind of goods. This is a genuine decision. Here the producer decides what he is *going to do.* But once entry into the business arena is accomplished, further decisions of the same kind, except in minor matters, are impossible. The producer can no longer decide what he is going to do; all that is now possible is to figure out, to the best of his ability, what he *can* do. He cannot decide to produce x units

per day of product A. The best that he can do is to conclude that the prospects of selling x units per day justify *beginning* operation on this basis. If his analysis of the situation was wrong he must adjust his operations accordingly, even if this means closing down entirely. He cannot decide to hire y workers. He must hire the full number that he needs to produce x units of his product, and he must not hire more than he needs. He cannot decide what he is going to pay them. The wage and salary scales are determined either by the pressure of competition, by law, or by labor negotiations. He cannot decide to sell product A at price z; all that he can do is to estimate that he can sell his output at that price. If this estimate is wrong, he must either alter his price or his volume of production, or both.

The truth is that the producer operating under the individual enterprise system is subject to an extremely rigid set of controls, and he has only a very limited range of *economic* options. He has considerable freedom in *technological* and *organizational* matters, and his primary objective is to manipulate these factors in a manner that will put him in the most favorable relative economic position. The explanation of the successful operation of the system lies in this very fact that most economists seem unable to see: the fact that the ordinary producer can improve his own position only by actions that increase productivity and thereby benefit the consumer (on the basis of the values determined by the consumers themselves). He cannot achieve such an improvement by the kind of actions that the economists believe are his main concern: economic actions aimed at getting a bigger slice of the pie. Of course, some producers have the benefit of monopoly positions of one kind or another, but in almost all cases these are either recognized as being in the public interest (patents, etc.), established with the consent and under the control of the consumer (brand name products, etc.), or illegal (in which case it is the fault of the community if they continue to exist). The producer who receives a subsidy likewise occupies a preferential position, but such concessions are within the control of the government, or the public, not the producer.

## CHAPTER 14

# Business Cycles

The most charitable comment that can be made about the prevailing attitude of the economic profession toward the business cycle is that it demonstrates the overwhelming optimism of the human race. This present attitude can be described as follows:

(1) The true cause and mechanism of the cycle are as yet unknown.

(2) Nevertheless, it is agreed that the cycle seems to be a normal feature of the existing American economic system (and no doubt others as well), and that the business cycles can therefore be expected to continue, unless some major improvement in our understanding of the cause of the cycle takes place.

(3) Notwithstanding this general agreement that the cycles will continue, and that the true reasons for their origin and development are unknown, it is trustingly assumed that the government has the wisdom, initiative, and power to take sufficiently effective action against these unknown causes to prevent the low point of the cycle from ever again reaching depression levels.

During the depression era of the 1930's, when the business cycle had no rival as the number one economic problem, it was freely admitted by the economists that their theoretical knowledge was totally unable to provide an explanation for the cause or mechanism of the cycle. Almost every one of the many books on the subject written during this period contains an explicit or tacit admission that the origin of depressions had everyone baffled. Hayek (1932)99 bluntly warns his colleagues that they must be "painfully aware" of how little they know about the force that they are attempting to control. King (1938)100 says that the "surprising suddenness" of the depression's onset makes the "mystery especially baffling." The use of three such words as mystery, surprising, and baffling in one short sentence is certainly revealing. Harwood (1939)101 "presumes" that no economist and few businessmen would expect

that complete elimination of the cycle could ever be accomplished. Mitchell (1941),[102] dean of business cycle theorists, clearly implies weariness and discouragement in the ranks when he counsels that business cycle theory need not be "given up in despair."

How much progress have we made since then? William N. Loucks gave this assessment of the situation in 1961:

> There is evidence that the business cycle is a product of the functioning of the institutions of a capitalist order. Just how these institutions, separately or in combinations, generate cyclical fluctuations of economic activity has not as yet been conclusively analyzed. Students of the business cycle, however, agree that its source must lie in entrepreneurial decisions in an environment that includes the profit motive, freedom of individual initiative, and competition.[103]

And what does this tell us? To be perfectly candid, isn't this simply taking 70 words to say "We don't know"? More recent discussions of the subject have no more to contribute. "Innumerable theories, none of them entirely satisfactory, have been advanced to explain the business cycle," say Heilbroner and Thurow.[104] Most economists sidestep the whole issue with such statements as "Today's experts place little confidence in any single cause."[105] or "Most economists today believe in a synthesis or combination of external and internal theories,"[36] or "Economists...tend to see cycles...as variations in the rate of growth that tend to be induced by the dynamics of growth itself."[106]

The truth is that little or no real progress has been made in this area since the 1930-1940 decade when the students of the cycle openly talked about giving up in despair. Since that time the economists are merely giving up more cheerfully. T. W. Swan, for example, is quite philosophic about the situation. "I suspect," he says, "that the search for *the* theory of the trade cycle... is the economist's equivalent of the search for the elixir of life or the philosopher's stone."[107] Milton Friedman points out that the modern theorists have not actually advanced beyond the point reached by Mitchell. As he puts it, "the major difference between Mitchell's theoretical discussion and modern discussion is in language rather than in substance. He uses none of the jargon we have grown so fond of – "propensities," "multipliers," "acceleration principle," etc. – and he uses no mathematics."[108]

The problems of the cycle have not been solved. What has happened is that the urgency has lessened, and the inherent optimism of the human race has had an opportunity to reassert itself. In 1940 the Great Depression was very close and very frightening. Some measure of recovery had been achieved, but there were still eight million unemployed, and it was painfully apparent that use of every known technique by a government willing and anxious to exert all of the power at its command had reduced neither the severity nor the duration of the depression. Indeed, there was much evidence to indicate that the actions taken by the government had actually delayed recovery. But by now the distressing experience of the thirties has receded into history, and the lessons that were presumably learned have been largely forgotten. Good intentions on the part of the authorities, which were so pathetically futile in the thirties, are now confidently expected to be able to triumph over any adversity. For instance, Arthur F. Burns, who had enough experience in government positions to know better, tells us, "It is reasonable to expect that our government will ordinarily be wise enough to move in sufficient time and on a sufficient scale to prevent recessions... from degenerating into severe or protracted slumps."[109]

In the book previously quoted, W. N. Loucks recalls the philosophy of the "new era" in economics that was prevalent in the 1920's and came to such a tragic end in 1929, and rather uneasily admits that "It is a fair question whether businessmen and academic economists again have been lulled by post-World War II prosperity, into a similar state of wishful thinking."[110] But he finally closes his eyes to the disagreeable facts of experience, and concludes that the current optimism is sound because (1) it is based on "those implications of Keynesian theory which have been almost unanimously accepted as sound by economists," and (2) it does not rely upon automatic forces but upon the use of stabilization tools.

Neither of these arguments advanced by Loucks in support of his optimistic view of the situation can stand up under any kind of a critical examination. Even if Keynes' theories were currently accepted by all economists, the volatility of economic ideas is too great to justify accepting those theories as conclusive. But Keynes' theories are by no means "almost unanimously accepted" today. On

the contrary, it is widely acknowledged that they have lost a great deal of ground in recent years.

So far as the second argument is concerned, it is quite obvious that as long as the economists admit that they do not know the *causes* of the business cycle, we cannot place any great reliance on the efficacy of the measures by which they propose to control it. This point was often emphasized even in the heyday of Keynesian economics. "It is exceedingly difficult." J. E. Meade reported, "to decide to what extent any particular counter-measure to offset inflationary and deflationary developments would be successful in its objective."[111]

In the light of the findings of the present investigation, it is clear that one of the principal factors responsible for this uncertainty is the way in which Keynes and his followers concentrated their attention on one particular phase of the situation to the virtual exclusion of everything else. According to Keynes, investment is the key factor in the problem. Alvin Hansen, one of the leading "interpreters" of Keynesian doctrine in its palmy days, asserts, without qualification, that "The cycle consists primarily in fluctuations in the rate of investment."[112] R. C. O. Mathews says essentially the same thing: "It is fluctuations in investment that are generally held to lie at the heart of the cycle."[113] Before going ahead with a general analysis of the cycle, it will therefore be advisable to examine this question of investment in more detail.

The first point that should be noted is that in the operation of the economic mechanism *all goods are alike.* Whether they are consumer goods or capital goods, durable goods or transient goods, is immaterial from the general standpoint. Regardless of their classification, they are all produced by the application of labor and the services of capital in some kind of a production process, and when they reach final form (that is, when intermediate products have been converted to final products) they are all sold to individuals, or their agents, in the goods markets. In these markets the buying is all done *by* the same kind of people and *with* the same kind of money. (It should be remembered that all buying of capital goods is financed by individuals, either by direct investment or by foregoing dividends to allow corporate earnings to be "plowed back.")

In the successive phases of the business cycle the behavior of different classes of goods differs to a considerable degree, but neither the time order of the increases and decreases in demand for the various classes of goods nor the greater variability in the demand for durable goods has any fundamental significance. When unfavorable economic conditions cause consumers to reduce their buying of goods-in-general they naturally and logically start by eliminating purchases of those items that they can do without most easily; that is, capital goods, durable consumer goods, luxuries, etc. But since all goods are alike in the general economic process, these variations do not have any special effect on the general operation of the exchange mechanism. Those who have attributed great importance to the fluctuations in capital goods production, like Hansen, who called these ups and downs the essence of prosperity and depression[114] have been misled by superficial appearances.

It is not a decrease in *investment* (purchase of capital goods) that is responsible for the downswing of the cycle; it is a decrease in the *total* money purchasing power entering the markets for the purchase of *all* goods that is at the root of the difficulty. The difference between "saving," as defined by Keynes, and current investment goes into money storage, and it therefore constitutes one of the reservoir transactions which, according to the findings of this work, are the controlling factors that determine the course of the business cycle, but it is only one of many such transactions, not *the* determining factor, as the Keynesians would have us believe. Keynes' conclusions on this subject are therefore only partially right, and like so many other half-truths, they lead to the wrong answers.

The relation of investment to saving, as Keynes defines the latter term for this particular purpose, has no significance in itself; it is only one of a number of equivalent phenomena. The net resultant of all of these equivalent items is the factor that determines the direction of movement of the price level and the business cycle. Keynes' contention that regulation of investment is the key to control of the cycle is therefore erroneous. If investment happens to be unbalanced in the direction opposite to that of the net total of the reservoir transactions, which is likely to be the case at least part of the time, restoration of a balance between saving and investment would

accentuate the unbalance of the economy as a whole rather than contributing to stability. Even where investment control happens to have the right direction, it is quite unlikely that the countercyclical measures can be applied on a sufficient scale to counteract the heavy surges that develop in some of the other reservoirs.

Another school of economic thought approaches the investment question from a different direction. In this view it is not the unbalance between saving and investment that is credited with causing the trouble; it is an "overproduction of capital goods relative on the one hand to the existing capital and on the other hand to the effective demand." This, says Schumpeter, is "the explanation of the circumstance which cuts short the boom and brings about the depression."[115] As the economists of this school see the situation, investment adds to capacity, additional income is necessary in order to buy the products of the additional capacity, and if the income is not forthcoming, the capacity must remain idle. Oddly enough, Galbraith, who usually stands shoulder to shoulder with anyone who worries about a lack of demand, turns the argument upside down in this case, and becomes concerned about the possibility that the increased investment will add purchasing power in the form of wages, etc., before the added capacity is in operation to meet the added demand."[116]

Some economists express concern over the possibility that so many new factories may be built that some of them cannot be utilized and will remain idle or partially idle. This is simply a case of making mountains out of molehills. Too much productive capacity in general will be possible only when general overproduction is possible, and our trouble now and as far as we can see into the future is too little production, not too much. The worst that can happen, therefore, is that too much productive capacity of some particular nature may be built – too many fast food restaurants, for instance. This is, of course, a loss to the community, in that it sacrifices the gain that could have been made if the same resources had been applied to the construction of a more useful productive plant. It should be emphasized, however, that this is the *only* unfavorable result of the overbuilding. An unproductive investment of this kind has no detrimental effect on economic stability, and it does not lessen

employment, since jobs that never existed cannot be lost. It simply leaves the whole economic system just where it was before.

Careful investigation by the Brookings Institution and others has revealed that the overcapacity that appears to be present in many industries is more apparent than real. It is either the result of current operation of the economic system as a whole at less than maximum production, or it is due to the need for sufficient capacity to meet peak demands when they occur. But even if we do concede that an unnecessary factory or other facility may be built now and then, the only losers are the investors, and we cannot legitimately shed any tears over their misfortune. Bearing the risks of business is one of the functions which they have undertaken to perform, and for which they are being compensated.

Abandonment of a productive facility because of inability to find a productive use for it is the economic equivalent of consumption, and it has exactly the same effect on the economy of the individual and the economy of the community as a whole. If an individual loses $50,000 because of an investment in a failed business enterprise, both he and the community are in the same position as if he had spent the $50,000 on additional consumption by himself or his family. It would be preferable to channel the investment into usable facilities rather than into unprofitable ones, to be sure, because the community would then *gain* from the transaction, but in any event, the community suffers no actual *loss.*

All of these misconceptions of the role of investment in the modern economy are products of the confusion that has been generated in economics by what Galbraith calls "the intellectual repeal of Say's Law."[117] and its replacement by the concept of an autonomous demand. The fear of a temporary excess of purchasing power is equally as groundless as the fear of a shortage. It is the investment itself, the purchase *by individuals* of the factory and its equipment that offsets the payments *to individuals* for the labor and services of capital required in building the factory and fabricating the equipment. The commodities which the factory will eventually produce play no part in this equilibrium. When their production finally begins, this production will create the purchasing power required for buying the commodities that are produced, nothing more. In order to avoid

getting tangled up in these investment fallacies, all that is necessary is to bear in mind that the production of buildings, machinery, and other capital goods creates the full amount of purchasing power necessary to buy *these capital goods* – no more, no less – in exactly the same way that the production of consumer goods creates the right amount of purchasing power to buy those goods in the markets.

In view of all of the existing confusion as to the origin of the business cycle and the nature of the effects produced by each of the elements that enter into the situation, the present complacency regarding the ability of the government to meet whatever emergencies may arise is both unrealistic and hazardous, as Dudley Dillard pointed out some years ago in the following statement:

> This appears a strange and dangerous illusion into which we have fallen – the illusion of economic stability. Although actual events have been little influenced during the past twenty years by Keynesian economics, we now implicitly put our faith in the conscious application of this type of policy to save us from the fate which has characterized capitalistic development with increasing intensity during the past century and a half. We have the arrogance to assume that from now on we shall do what has never been done before...Such faith in human intelligence is admirable but hardly justified from experience.[118]

The results of this present study show that the government does, indeed, have plenty of effective tools for controlling the business cycle. But the study also shows that many of the measures which currently occupy prominent places in the proposed control programs will have no effect on the cycle when the emergency arrives and they are put into operation. Even worse, some of these measures will actually have the opposite of the desired effect, and will impede recovery from a depression, rather than facilitate it. Under the circumstances if will be nothing short of a miracle if the net effect of government action is sufficient to halt a major depression when some event comparable to the 1929 stock market crash turns the natural downward swing of the cycle into an economic catastrophe.

One of the important factors in this situation is that massive movements such as great depressions require massive remedies. Whatever action is taken has to be sufficiently powerful to reverse, or at least halt, the downward trend. Merely slowing the decline does no good. It may even be harmful, in that it tends to lengthen the

depression period. But when no one knows whether the proposed remedies will work or not, neither the government nor the general public is likely to have enough confidence in any particular remedy to permit applying it on the necessary massive scale. In all probability, the actual procedure will be to try a little of this and a little of that, just as was done in the 1930 depression, and the same failure to achieve satisfactory results is practically inevitable.

The economy in its present condition could be compared to a vehicle which has a full set of controls, but with no identification of the devices for operating those controls, and no outside view, so that there are no means of determining whether it is on the right course, other than the shocks that are felt when rough ground is encountered, and no way of knowing just which controls should be operated to produce a specified action, if some action seems to be required. In such a situation the obvious needs are to provide a window – some means to enable seeing where the vehicle is and where it is headed – and to determine the effects that are produced by each of the control devices, so that actions can be taken of exactly the right kind to keep the vehicle on the desired course.

In the preceding chapters of this work we have produced the equivalent of a window, and have identified the controls of the economic mechanism. We have shown that the requirement for maintaining a stable economy is to keep the flow of money purchasing power entering the goods market equal to that leaving the production market, and we have further shown that the method by which this can be accomplished – the *only* method that will produce the desired result – is to maintain a balance between the total inflow into and the total outflow from the reservoirs of money and credit that exist in connection with the purchasing power stream. The control must be related to the *total* reservoir transactions. Any attempt to base a control procedure on only *one* factor – investment, money supply, or whatever it may be – is automatically doomed to failure, as the measures undertaken in carrying out such a control policy will not have the correct magnitude, nor will they necessarily have the right direction. If the factor being controlled is moving contrary to the movement of the net total of the reservoir transactions, which can easily happen, the control measures will be harmful rather than helpful.

It is quite evident that the business cycle is simply a money inflation, as defined in Chapter 12, followed by a corresponding deflation. All that was said in Chapter 12 with respect to money inflation, its causes, and its remedies, is applicable to the alternate inflations and deflations that we call the business cycle. "It would be satisfying to discover a general cause of economic fluctuations, a single source of the uneven heartbeat of the economy,"[119] says Lloyd Reynolds. Well, here it is. The movement of money into and out of the reservoirs is that "single source," that "general cause of economic fluctuations."

In view of the rather elementary nature of the explanation developed in this study, it seems almost incredible that the economic profession should have experienced so much difficulty in analyzing the cycle and its causes. The presence of reservoirs in connection with the money purchasing power stream is obvious to anyone who looks carefully at the economic process, and it is equally clear that the mere *existence* of uncontrolled reservoirs of this kind must inevitably lead to economic fluctuations. It is only natural, however, that the explanation developed herein should suffer from its very simplicity. There will be a tendency to feel that the answer to a long-standing problem of this kind *cannot* be so simple and obvious. For this reason it appears advisable to go into more detail concerning the mechanism of the cycle, so that there may be no question but that the reservoir theory furnishes an explanation that agrees with actual experience even down to the smallest particular.

"There are two main things to be explained," according to Reynolds. "First, after the economy has started moving up or down, why does it build up momentum and keep going in the same direction for a considerable period of time? Second, and more difficult, why does the movement reverse itself after a while... Why doesn't the expansion continue indefinitely?"[119] Once the action of the reservoirs is clearly understood, the answers to both of these questions are practically self-evident.

Let us begin our consideration of the cycle at a point where the system is in equilibrium, where the net reservoir transactions are momentarily at zero, and market price is therefore equal to production price. While such a condition of equilibrium could

theoretically occur at any volume of production, in actual practice, as matters now stand, it will coincide with a production somewhat below the maximum. Such a balanced condition, however, does not persist for any extended period in the absence of a specific program for maintaining the balance. Soon some change takes place in the reservoir levels, either in one direction or the other. Let us assume for purposes of the analysis that in this particular case credit transactions increase, and the active money purchasing power stream is swelled by withdrawals from the reservoirs. This raises the market price level. The addition to the money flow passes on to the producers, and goes partly to increasing volume and partly to increasing production price, in accordance with the principles developed in Chapter 11. The larger volumes of goods and money purchasing power flow back to the markets, and if the reservoir withdrawals have ceased, equilibrium between production and the markets is reestablished at these higher levels of production and prices.

At this stage human reactions enter the picture. The rise in employment and production has improved general economic conditions for both producers and worker-consumers. While the latter, in their capacity as consumers have to pay somewhat higher prices, this is more than offset by the fact that in their capacity as workers they have the benefit of a favorable employment situation. The producers find a good demand for their products, and as long as the reservoir withdrawals continue, their profit margins are above normal. (When prices stabilize at the higher levels, this secondary advantage disappears.) *Confidence* then prevails, and the ensuing actions of both consumers and producers with respect to the controllable features of the economy, are influenced by this spirit of confidence.

Here is the first place in the entire study where it has been necessary to give any consideration to human behavior. Thus far the analysis has been confined to developing principles which take the form of statements that *if* certain economic actions are taken, *then* certain results will follow. At this point we find it useful to extend the scope of these principles by taking note of the fact that *mass* reactions of human beings to certain stimuli are just as amenable to exact mathematical and logical treatment as purely physical relations. We can state with the same degree of certainty that *if* certain conditions prevail, *then* certain mass actions by human beings will result.

Of course, we have been told that human actions are too unpredictable for mathematical treatment, but when we examine the situation closely we find that the difference between individual economic actions and individual physical actions is not so great after all. It is true that the individual human beings who constitute the fundamental economic units have a certain field in which they can exercise the privilege of choice between various possible economic actions, and this choice is individually unpredictable. But the actions of the ultimate units of the physical world are also unpredictable – *de facto,* if not *de jure.* We cannot predict the actions of an individual molecule any more than those of an individual person. Indeed, there is much support for a "principle of indeterminacy" which holds that there is an inherent uncertainty about physical phenomena that is impossible to resolve. But that which is only a probability so far an individual is concerned becomes almost a certainty for a group of individuals, and this is equally as true in human activities as it is in the physical realm. We cannot predict the life span of an individual by any of the means at our command, but from our actuarial tables we can forecast with considerable accuracy the number of individuals out of any sizable group that will die within a specified period.

In the economic world, as well as in the physical world, individual uncertainty can be converted into group certainty through the application of the probability principles. The conclusions which we reach concerning the mass actions of unpredictable human beings can be just as exact as the conclusions that we reach concerning the mass actions of individually unpredictable molecules, providing that we use equally accurate methods in arriving at those conclusions. When we find from observation and statistical analysis that a rising price level, together with the secondary effects that accompany this rise, induces a spirit of confidence that results in reservoir withdrawals, this does not mean that *every* individual will react in this manner. It means that the *net* reaction of all individuals in the economy will be as indicated.

Let us now look at each of the important reservoirs to see how they are individually affected by the optimistic attitude. The principal contributor to the unbalancing of the system is *credit.* In no other way can the flow of purchasing power to the markets be more heavily augmented or more drastically reduced, and nowhere does the effect

of confidence or lack of confidence show up more quickly. When business is on the upswing both the demand for and the supply of credit are above normal, and the money purchasing power stream is swelled by heavy withdrawals from the credit reservoirs.

Hand in hand with credit goes the *rise in the valuation of existing assets.* There is a popular misconception that this *reduces* the flow of consumer purchasing power to the markets; that much of the available purchasing power is used during boom times to raise the prices of land, stocks and bonds, or other capital assets in the possession of individuals. This is not correct. These assets are purchasing power in themselves, and exchanging them for circulating purchasing power only changes the ownership of the two forms of purchasing power at the same economic location. Every exchange of money for other assets by one consumer is also an exchange of these other assets for money by some other consumer, and consequently there is just as much money and just as large amount of the other assets in the hands of consumers in general after an exchange of this kind as there was before the exchange, regardless of the price at which the sale was consummated. A higher price increases the amount of money transferred, but it does not alter the final result, as transfer of money between consumers has no effect on the total amount of money in the possession of consumers in general, and hence no effect on the availability of money purchasing power for buying currently produced goods (Principle IV). *Increases in the prices of existing goods in the hands of consumers finance themselves.* Expressing this in another way, we have:

> ***Principle XIII:*** **All consumer purchasing power must be used for the purchase of goods from producers; it cannot be used for the purchase of goods already in the hands of consumers, or for raising the prices of such goods.**

This point is worth emphasizing, as a misunderstanding of the facts with respect to transactions involving existing capital assets is responsible for much fallacious reasoning in current economic literature. It is another of those items which the orthodox approach to economic relations fails to clarify, and it is therefore not surprising that the work of many analysts has been seriously affected by this error. For example, the economists of the Brookings Institution carried out some detailed studies of the effect of distribution of income on the

general economic situation, in the course of which they concluded that when the current volume of savings exceeds the requirements for new capital construction, the excess is taken up in various ways, including the purchase of existing securities or bidding up the prices of these securities.[120] As one of these investigators (Moulton) puts it,

> What became of the accumulated purchasing power that was not absorbed by higher prices? Much of it was used as time passed in buying additional quantities of consumer goods as they became available in the market. Some of it was used for the construction and improvement of homes. Some of it went for the purchase of urban or farm real estate. Some of it went to liquidate mortgages, to buy insurance policies, to increase savings deposits, and to purchase securities in the market.[121]

The present analysis shows that most of these transactions do not absorb any of the "accumulated purchasing power." This excess money purchasing power cannot be used for "buying additional quantities of consumer goods" because the production of those goods creates all of the purchasing power that is needed for their purchase at the existing market price level. They cannot be used "for the construction and improvement of homes" for the same reason. These home improvements are merely consumer goods of another sort. They cannot be used for "the purchase of urban or farm real estate" or to "purchase securities in the market," as such purchases are transactions at the same economic location. The amount of purchasing power available for consumer use is not altered by such transactions, regardless of the prices at which the sales are made.

"Purchase of insurance policies" is equivalent to consumption, except to the extent that the equities of the policyholders or stockholders are increased.

Money purchasing power can be withdrawn from the stream going to the markets by storing the money or by retiring currency (or its equivalent), but unless it is thus withdrawn the entire amount is used for the purchase of goods currently put on the market by producers. (Thus far in these discussions, only the interactions in a self-contained unit are being considered. Foreign trade, to be considered later, may cause some modification of the market situation, but these changes are separate and distinct from the phenomena with which we are now concerned, and can be added later.)

"Bidding up prices" of securities and real estate is often cited as one of the ways in which excess money purchasing power is absorbed during the boom phase of the business cycle, particularly by those who deplore the diversion of funds from more productive uses. But this is another misconception. As noted earlier in the present chapter, these speculative price increases finance themselves. The amount of money purchasing power available for consumer use is not altered in any respect by these transactions, regardless of the prices at which the sales were made. However, the revaluation of assets generates further credit transactions that do affect the money reservoirs.

The use of credit is normally limited by the amount of acceptable security available to the prospective borrowers. Under present banking policies, when market prices rise a larger amount of credit will be extended on the same security. The purely imaginary additional values resulting from speculative transactions thus have the effect of temporarily enlarging the credit reservoir. Consequently, they increase the active money purchasing power, rather than absorbing it. During periods of increasing business activity there is also more than the usual amount of creation of *claims against the future:* patents, monopoly privileges, etc. Money purchasing power obtained by means of credit based on the present value of such claims helps extend the economic unbalance.

In addition to the money reservoirs there are also reservoirs of *goods.* Those goods in the hands of consumers can be ignored for present purposes, as they have no effect on the general economic situation regardless of what disposition is made of them (Principle XIII). Goods in producers' stocks do play a part in the market process. There is always a certain quantity of finished and partly finished goods in the possession of the producers, or in transit, but during those periods when prices are rising and buyers are plentiful, the stocks of goods drop because of the unbalanced pressure on the buying side. This additional volume of goods flowing to the markets from storage contributes to some degree toward holding prices down, and consequently it is a stabilizing factor during the rising phase of the cycle, but unfortunately only a minor one, from the overall standpoint.

The producers may also have reserves in the form of capital assets that are readily marketable, but neither the accumulation nor the utilization of such reserves influences the price structure or the business cycle in any way. These capital assets must be bought in order to accumulate them, and sold in order to utilize their purchasing power. In the purchase and sale the markets are affected to the same extent as if the money had been paid out in dividends and the purchasing power had been used by the individual recipients.

When business is good, the opportunities for profitable use of money are relatively plentiful, and the reasons for holding it in reserve are minimized. As a consequence, money flows out of storage during the business upswings. Under the influence of the augmented money stream, market prices rise still more, and this in turn adds to the psychological forces inducing further withdrawals from the reservoirs. Here, then, is the first of the explanations that Reynolds called for in the statement quoted earlier. In its early stages the business boom is a self-reinforcing process.

But the withdrawals from the reservoirs cannot continue indefinitely, because there are finite limits in each case (which is the reason for using the term "reservoir" in application to the various sources of inflationary additions to the money purchasing power stream). Obviously money cannot be withdrawn from storage in excess of the amounts stored, and when the money reservoir nears the empty point the outward flow must necessarily diminish. Similarly, credit cannot continue to increase without limit. As time goes on it becomes more and more difficult to find additional security acceptable to the lender. Even governments do not have unlimited credit.

There is a normal level of each reservoir, determined by the amount of borrowing that would be done, and the amount of money that would be kept in reserve, if business activity were riding along without any apparent trend one way or the other. The rising prices and increasing profits in the case now being analyzed cause the growth of a spirit of optimism regarding future prospects, and induce withdrawals which lower the levels in the reservoirs below normal. But these lower levels can only be maintained by the constant application of an external force – the optimistic public attitude – and

it can therefore be said that a condition of strain has been produced in the reservoirs which will tend to bring the levels back to normal whenever the external forces are no longer operative. The stronger the forces operating to drain the reservoirs, the lower the levels that will eventually be reached, and the greater the strain that will be effective toward restoring normal conditions when the external forces are removed.

Just how far the rise will go before reaching its peak depends on a number of factors. One of the most important of these is the size of the reservoirs, which depends on the productive capacity of the nation. Countries that live close to the margin or starvation do not have business depressions. They have famines, wars, pestilences, and the numerous other collective ills to which the human race is subject, but not depressions. At the other extreme the United States, the land of greatest physical wealth, has the worst booms and depressions, just as would be expected from the theoretical principles that have been developed. The larger the reservoirs, the more they can affect our economic life if they are not properly controlled. A beaver dam may break without any serious consequences, but an uncontrolled release from a larger reservoir may result in a catastrophe.

We have every reason to believe that the continued increase in technological knowledge will result in a constantly increasing production of wealth as time goes on, and unless adequate control measures are taken in time there is little doubt but that the 1929 debacle will ultimately be repeated on an even greater scale. Such controls are readily available, however, and it is to be hoped that before the next upheaval of this kind is due economic thinking can be clarified to the point where the requirements for control of the cycle will be recognized, and the necessary actions will be taken. One of the primary objectives of the present work is to contribute to such a result.

Another factor in determining the magnitude of the cyclical swing is whether or not the boom is capped by a speculative orgy. All periods of rising prices are favorable settings for excessive speculation, but the situation is much the same as that which exists in the Western forests in the early fall. Toward the end of the the dry season every forest is a potential tinder box, and serious fires can be expected periodically. Nevertheless, the forests do not all burn

every year, because in addition to the favorable burning conditions there must also be a spark that strikes a vulnerable spot and sets off the conflagration. Similarly, in the case of a business boom, the potentiality of a runaway condition exists near the top of every upswing, but only occasionally is it converted into reality by a strong enough impetus.

Before turning to a consideration of the downswing, it is desirable to call attention of an important transition point on the upward curve. This is the point at which maximum employment is reached. Under present conditions, where no effective policy for maintaining full employment is being pursued, this is not a situation in which every person is working to the limit of his capacity, but the highest level of employment that can normally be reached under the prevailing economic policies. This maximum is affected by a number of factors, but it is fairly definite. As brought out in Chapter 11, any increase in the flow of money purchasing power to the producer has an effect on both production volume and price until maximum employment has been attained, after which any further increase is absorbed entirely in higher prices.

If the business boom has been moderate, and has not passed into the highly unstable speculative stage, the withdrawals from the reservoirs slack off gradually as the increased internal resistance in those reservoirs begins to overcome the upward momentum of the cycle. Since part of the artificial business prosperity is due to the unbalance between production price and market price that results from the reservoir withdrawals, any decrease in the *rate* of withdrawals makes further business expansion less attractive even while the trend of the cycle is still upward. Expansion is also discouraged when the normal labor supply is exhausted and labor can only be attracted to new ventures by outbidding existing enterprises. The first indication of a coming change is therefore a slowing down of the demand for new capital for business expansion purposes. It is this timing that has led some observers to suggest that the development of conditions unfavorable to new business financing is the *cause* of the downturn. Actually, however, this is merely one link in the chain of events stemming from the originating cause, rather than a causal factor in itself. The real cause of the reversals of the cycle can be

found in the finite limits of the money and credit reservoirs and the increased resistance to withdrawals as the reservoir levels approach these limits.

A substantial amount of borrowing during the upswing is done merely for the purpose of taking advantage of rising prices. As soon as the rate of price increase slows down the possible gains of this kind diminish, and the demand for credit decreases. Some borrowers begin to liquidate their debts. The effect of the decreased borrowing is cumulative, as it still further reduces business gains and money-making opportunities, thus leading to a further drop in borrowing and further repayment of debts. These changes decrease the outward flow from the money reservoirs, and in time the net balance of the reservoir transactions becomes inward rather than outward. Market prices then fall relative to production price, and a recession is on the way. The absolute price level may not fall immediately, because of coincident wage increases, but it is a decrease in the relative price level that causes the decline to begin.

There is no *stable* condition at the top of the cycle. The rise has been possible only because of external forces (the urge to profit from the price increase, etc.) acting against the internal resistance of the reservoirs, and as soon as the external forces weaken, the downswing starts under the influence of the ever-present internal stresses. A bouncing ball is a good analogy. The ball cannot remain at the top of its cycle. When the initial upward momentum is overcome, and the ball stops rising, it immediately starts downward because of the ever-present pull of gravity.

There have been many expressions of puzzlement as to why it is not possible to maintain the gains that are made during a boom; why economic disasters such as that of 1929 should strike when general conditions appear to be unusually favorable. For instance, Mitchell makes this comment: "The more vividly this cumulative growth of prosperity is appreciated, the more difficult becomes the problem why prosperity does not continue indefinitely instead of being but one passing phase of business cycles."[122] Reynolds' second question, "Why doesn't expansion continue indefinitely?" expresses the same thought. The answer is clear from our analysis. The boom prosperity is due to the withdrawals from the money reservoirs, and it cannot

continue indefinitely because those reservoirs have finite limits. As soon as the withdrawals start the inevitable decrease, the business decline begins.

In case there has been a speculative excess which has superimposed an additional price rise on top of the normal cycle, the downward trend is likely to be initiated with the force of an explosion. Here there is a pyramid of fictitious values supported by nothing but the hope and belief that prices will rise still higher. If this belief receives even a mild shock it expires, and the whole speculative edifice collapses. In spite of the spectacular character of these sudden deflations, however, they are not essentially different from the milder recessions, other than in degree. The causes of the disaster are implicit in the upswing; what goes up must come down. Furthermore, the greater the rise, the greater the subsequent fall. The decline must continue (in the absence of effective countermeasures) until the reservoirs are refilled sufficiently to generate a resistance to further decline. The more nearly they are emptied during the boom, the more will have to be diverted from the current money purchasing power stream to refill them to this resistance point.

The most serious aspect of the business decline arises from the "ratchet action" mentioned by J. M. Clark in the passage quoted in Chapter 11. During the upswing both production volume and price increase, but in the decline there is relatively little drop in price because the determining factor, the wage level, is quite inflexible in the modern economy. Production volume therefore bears the brunt of the recession. If the reverse were true – that is, if the producers could cut wages rather than volume – the business cycle would have little effect on the ordinary citizen, since changes in production price are promptly reflected in market price, and as a consequence the ability of the average consumer to purchase goods is not impaired by the wage cuts. But a reduction in employment and in the volume of goods produced strikes directly at the well-being of the entire community.

Here is one of the ironies of economic life. It is the success that the workers have achieved in their efforts to protect their wage and salary scales that is primarily responsible for the loss of jobs and the reduction of hours of work during business recessions. When the

producer's income drops, either price or volume must come down, and under present conditions it is difficult to reduce wage rates. The increased rigidity of the wage structure is one of the principal reasons for the growing seriousness of the unemployment problem, and the various measures that could be used to counteract the effect of the wage rigidity have therefore been given extensive consideration in *The Road to Full Employment.* As brought out in that work, when the cause of unemployment is understood it can be seen that there are ways of restoring the needed flexibility to the production price structure without returning to the unpopular and rather inequitable practice of giving the employers full control over wage rates.

After the decline starts, the downward movement of the cycle is accelerated by a reversal of the influences that aided the upswing. As prices fall the opportunities for profitable use of credit decrease, and at the same time lenders become more hesitant about extending credit, as well as less able to do so because of the reduced liquidity of their own assets. The decline in business opportunities and the apprehension about the future combine to encourage storage of money. The fall in the general price level reduces the market value of capital assets, and thus contributes powerfully to the contraction in credit. Miscellaneous claims against the future find less ready acceptance.

Most of the influences that resisted the upward tendency reverse themselves and resist the downswing. Producers increase their storage of goods, reducing the flow to the markets. (This is usually involuntary, as it results from inability to sell the full output, rather than from a deliberate policy of increasing inventories, but the economic effect is the same regardless of the reasons for the action). Government borrowing is usually increased. Those producers who are fortunate enough to have reserves of cash or other liquid assets are able to draw upon them as the incoming stream of money purchasing power diminishes. As brought out in Chapter 11, the stockholders who own all of the fixed assets of a corporation also own the corporate reserves. But while the fixed assets and that portion of the earnings of the enterprise that has been paid out in dividends are not available for meeting current production expenses, any portion of the earnings that has been retained in the form of liquid reserves can be used for this purpose if necessary. Such reserves

which are subject to the control of the officers of the corporation therefore have the status of producer purchasing power reservoirs rather than consumer reservoirs, even though the ownership rests in the individual stockholders.

As the filling of the reservoirs proceeds, and the reservoir levels rise above normal levels, a resistance to further input develops in the same way that the resistance to withdrawals increased during the upswing. Again the reservoirs have limits. Repayment of debts can continue only until the outstanding obligations have been met. Then the payments cease. Storage of money does not have quite as definite an upper limit, but money storage carries a penalty, loss of earning power, and as the losses from this source increase, the resistance to further storage becomes greater. As in the upswing, therefore, the momentum of the decline is finally reversed by the increased reservoir resistance, and the downward movement stops. Here, again, the situation is highly unstable. The existing reservoir levels are so far from normal that they can be maintained only by a strong external force, a fear of the future generated by falling prices and declining employment. As the decline tapers off and finally ends, this force weakens, the cost of money storage is harder to justify, and withdrawals from the reservoirs begin. Prices and employment then start to rise, reversing the psychological outlook, and a new cycle begins.

When the recession is relatively mild, the recovery from the low point takes place automatically in much the same manner as the decline from the peak. But if it degenerates into a major depression, the problem of getting started on the upward path is more complicated. As noted in Chapter 11, after business has slipped past a certain point any additional producer income that might develop goes almost entirely to bringing profits back to a tolerable level, and does not increase production volume. Without an increase in production and employment the needed change to a spirit of public optimism is not easily achieved. Furthermore, under such conditions a strong pressure is exerted on the government to do something. Anything is better than nothing, says the voting public. Unfortunately, something is not necessarily better than nothing. It is often a great deal worse than nothing, Indeed, the majority of the measures that are resorted to under the stress of an emergency where the government is

desperate for a remedy of some kind definitely delay or discourage the beginning of a real upswing. If they are justified at all, it is only on the assumption that they head off some still more drastic and destructive action on the part of a dissatisfied populace.

There is still another reason why the upturn is not always symmetrical with the downturn, particularly when the depression is severe. This is the fact that it takes a positive decision to spend, whereas not spending is merely negative and requires no specific decision. At the top of the cycle indecision is equivalent to a decision against further spending, and has the same effect toward reversing the cycle. The downswing is therefore certain to begin as soon as the upswing levels off; there is no period of hesitation. At the bottom, however, a positive decision is required to initiate the spending that will operate toward reversal of the cycle, and indecision defers the rise. This explains why governmental measures that destroy confidence can prevent or delay an upturn, although government efforts to maintain optimism are powerless to arrest the start of a decline when business is at the top of the cycle. The pessimism in the depression is not necessarily stronger than the optimism in the boom, but it is more effective because it has powerful allies in uncertainty and indecision.

It is evident from the foregoing description of the mechanism of the business cycle that those who are so optimistic regarding the ability of the government to prevent a repetition of the 1930 depression are indulging in wishful thinking. They are not even watching the right horse. They are failing to recognize that a depression is a *price* phenomenon, and that, however important other features of the downward stages of the business cycle may be, the fall of the price level is the *essence* of the depression. The "deficit spending" policy, on which so much reliance is being placed, will no more be able to cope with a new depression of a major character than it was to meet the situation in the 1930s, when it was pursued with fully as much vigor and enthusiasm as can be expected in the future.

There seems to be a general tendency to forget that deficit spending and the "built-in stabilizers" such as social security, are not something new that the economists have pulled out of the hat *since* the Great Depression. The spending programs were carried out on a massive

scale *during* that depression, with totally unsatisfactory results. Unquestionably, this kind of a program exerts *some* influence in the right direction. But, as an analysis of the nature of this contribution that will be carried out in a later chapter will show, it puts a heavy burden on business and the taxpayers just at the time they are least able to stand anything extra, and it therefore prevents or delays the restoration of public confidence in the economic situation which is essential for a real recovery.

Furthermore, such a program is not powerful enough to meet a major emergency, as there is a limit to the load that the taxpayers can, or will, support, a limit that is none the less real when the government tries to hide it by financial juggling. As the number of persons on government jobs or government support becomes greater, and the number of persons that foot the bill becomes smaller, this limit emerges as a painful reality, and the program bogs down just when it is needed most. The direct connection between the magnitude of the national wealth and the violence of economic fluctuations that was pointed out in an earlier paragraph means that even more powerful anti-depression measures will be needed in the future, if the economy remains uncontrolled. As wealth increases, the amplitude of the cyclical fluctuations also increases; that is, depressions become worse. Unless we adopt a program which will actually *control* the flow of money purchasing power to prevent the cyclical fluctuations – some program that is not, like the deficit spending policy, a burden on the taxpayers and hence subject to collapse at the very time when it is most urgently needed – we can look forward to even worse situations than that which was experienced in the thirties.

## CHAPTER 15

# Money and Credit

In the preceding discussion it has been sufficient to treat the circulating medium from a functional viewpoint, without inquiring into the nature and characteristics of the media actually used for this purpose. When we take up a consideration of practical control measures, however, more detailed information will be required. At this time, therefore, we will make a more extensive examination of money and credit.

There is a possibility that credit may have been employed on a limited scale in even the most primitive economies, but the first extensive use of an auxiliary medium of exchange began with the introduction of money. It should not be assumed that money was an invention: something that originated from the kind of a "flash of genius" that our courts talk about in their patent decisions. Rather, is was a development, a slow and gradual growth from small beginnings. In the early days of barter all transactions were undoubtedly direct exchanges. But as trade increased, more and more situations would naturally arise wherein individuals having goods to dispose of were unable to find buyers that could offer suitable goods in exchange. Under such conditions, particularly if the original goods were perishable, there was clearly an advantage to be gained by accepting some unwanted commodity that could later be exchanged in an additional transaction with a third person for the goods that were actually desired. The more ready acceptance this intermediate commodity could command the more advantageous it would be for the purpose. Consequently, there was a gradual tendency toward the use of only the *most* readily accepted commodity as the exchange medium. This had the additional advantage of providing a standard of value whereby the relative worth of different goods could be more easily established.

The information that is available about the use of money under primitive conditions indicates that utility was originally the controlling factor. In each local area some commodity in general use took on the functions of the exchange medium. In one place this was cattle, in another shells, in a third salt cakes, and so on. But as time went on it became apparent that other characteristics were more important than widespread utility, since adequate utility to *some* consumers was sufficient to insure acceptance of an otherwise suitable commodity, even though it might be of no use to most people as an article of consumption. Aside from this reasonable amount of utility, the requirements that a commodity should meet in order to be fully satisfactory for monetary purposes are that it should be permanent, uniform, easily recognizable for what it is, easily subdivided, easily stored, easily transported, and available in sufficient quantities to serve the monetary purpose, but not too plentiful, so that its value per unit will be relatively great and the amount to be handled will be correspondingly small. On this basis, the rare metals, particularly gold and silver, gradually preempted the field.

As brought out earlier, these characteristics which make a commodity suitable for use as money are primarily those which reduce fluctuations in value to a minimum, and thus permit use as purchasing power without very much limitation as to time and location. Gold is a better medium of exchange than salt cakes, not because it possesses any essential quality which salt cakes lack, but because it possesses the desirable qualities in a greater degree, and its value is therefore more stable.

It should not be overlooked, however, that gold is money only because it is a commodity with a utility as such, independent of its utility as a medium of exchange. Only goods can play the part of *intrinsic money;* that is, money which exists as such in its own right and not as a representation of something else. That commodity which is accepted as the most stable form of value currently available (or at least one of the most stable forms) is money. In the earlier pages much stress was laid on the fact that goods are not only articles of consumption but also constitute purchasing power. The converse is also true; intrinsic money is an article of consumption as well as purchasing power. It is also true that the relative value of gold compared with other goods is affected

very materially by the extent to which it is utilized as money, but it would not be intrinsic money at all if it lacked a value independent of its utility as an exchange medium. Originally its value as money and its value as a commodity were equal. At that time, if an individual desired to convert his assets into the most stable form, the answer was intrinsic money. Greater stability of value could be attained by exchanging those assets for money, and still greater stability could be attained by exchanging this other money for gold. Once he had possession of gold he could go no further. Any remaining element of instability had to be accepted as unavoidable.

The development of other types of circulating media in the modern economies has changed this picture very materially. In earlier days when governments were unstable and private business enterprises were subject to a multitude of uncertainties, nothing but the physical possession of intrinsic money was satisfactory. But as sound economic and political institutions gradually evolved, it because possible to take a step forward by storing the monetary commodity and circulating claims against the intrinsic money rather than passing the physical commodity from hand to hand. Such *token money* is far more convenient, and as long as it is fully covered by intrinsic money in storage and convertible on demand, it meets all of the requirements of a satisfactory medium of exchange.

It was inevitable, however, that the money issuing agencies, both government and private, should soon learn that they were not forced to limit their issues of token money to the amount of intrinsic money on hand, as long as there was enough available to meet the demands of those who actually did present the claims for redemption. But the additional issues of money claims which took place under this policy did not constitute the same kind of money, This was no longer token money, a representation of intrinsic money in storage; this was *credit money,* and it had all of the peculiarities and weaknesses associated with the use of credit.

*Credit* is a device for reversing the time order of economic transactions. In the normal exchange process, the results of past effort are exchanged for goods to satisfy present and future wants. By means of credit, this time sequence can be reversed, and present wants can be met by pledging future effort. Credit is not peculiar

to any one type of economic organization. It simply reverses the time order of economic processes, whatever these normal processes may be. When trade is carried on by barter, credit enables obtaining goods first and later producing other goods with which to make payment. In modern practice money is first obtained by means of a credit transaction, then spent for goods. Production follows, and the proceeds are used to make payment in the final step of the process. In a barter economy credit operates through barter; in a money economy it operates by means of money.

Recognizing that credit is a *money* transaction in the present-day economy contributes materially to a clear understanding of its relation to the general operation of the economic system. It is true that direct credit dealings between merchants and consumers may take place without the aid of the monetary mechanism, under certain conditions. Consumers who buy goods from merchants' stocks on open accounts or deferred payment plans are drawing directly from the credit reservoir, and the original transaction involves no money. Such transactions show up physically as reductions in the merchants' inventories (goods storage). In spite of the large amount of business done on a credit basis, however, very little of it is carried through to completion without the use of money at one stage or another. Normally the merchants must proceed at once to replenish their stocks after sales. If they borrow money from banks for this purpose, the transactions revert back to the same status as if the consumers had borrowed from the banks. If they happen to have enough money reserves of their own to finance the credit business without the help of the banks, the result is merely a withdrawal from their money storage rather than bank storage.

This means that we can measure the changes in the money reservoirs and from them determine the variations that have taken place in both money and credit. Any increase in credit, aside from the small amount of pure credit dealings, must be reflected either by withdrawals of money from storage or by an increase in the amount of credit money outstanding (which is likewise a reservoir withdrawal). If an individual saves part of his income and deposits it in a bank instead of spending it, he has put this money into storage, and the active money purchasing power has been reduced by this

amount. But when the bank turns around and lends the money to some other person for use in the goods market, the ultimate effect is exactly the same as if the first individual had spent the money himself. The original storage transaction has been reversed by a withdrawal from money storage.

The deposits (money storage) thus constitute the source from which loans (withdrawals from storage) are made, and if we limited the supply of money to the amount of intrinsic money available – that is, if we used nothing but the intrinsic money itself or token money representing intrinsic money actually present in our vaults – bank credit could not be extended in excess of the money stored: the total deposits plus the capital and surplus funds of the banking institutions. As a publication of the Federal Reserve System expresses the foregoing: "the practical experience of each individual banker is that his ability to make the loans or acquire the investments making up his portfolio of earning assets derives from his receipt of depositors' money." But this same publication goes on to say, "On the other hand, we have seen that the bulk of the deposits now existing have originated through expansion of bank loans or investments by a multiple of the reserve funds available to commercial banks as a group," and it admits that this constitutes "an apparent paradox that is the source of much confusion to banking students."

In their explanation of the way in which the banks "create" the deposits, the authors of this publication utilize the example summarized in the following table:

| | (1) | (2) | (3) |
|---|---|---|---|
| Loans and investments | 80 | 80 | 120 |
| Reserves | 20 | 30 | 30 |
| Demand deposits | 100 | 110 | 150 |
| Ratio of reserves to deposits (percent) | 20 | 27.3 | 20 |

In the original situation (1), the bank had deposits of 100 and loans and investments amounting to 80, leaving a reserve of 20, or 20 percent of the demand deposits (the legal requirement assumed for purposes of the illustration). The Federal Reserve system now makes additional reserves available to the bank, bringing the total reserves up to 30, as indicated in column (2). The reserve ratio is now 27.3 percent, and the bank is able to expand its loans and deposits up

to 120 and 150 respectively, as shown in column (3), before the limiting ratio of 20 percent in again reached. This shows, the authors say, "that the issuance of a given amount of high powered money ("the dollars created by Federal Reserve action that become bank reserves," they explain, "are often called "high powered" dollars to distinguish them from ordinary deposit dollars") by the Federal Reserve will generate a volume of ordinary money that is several times as large as the amount issued."[123]

Now let us ask, What is wrong with this picture? The authors admit that in order to achieve the results specified the proceeds of the additional loans must remain on deposit, and they are so shown in the tabulation. So this "generated volume of money" is money that cannot be used. To illustrate this point, let us see what happens if the borrowers of the deposit money "created" by the bank do try to use it. They draw checks against the new deposits shown in column (3), cutting the total deposits back to 110. The bank must maintain reserves amounting to 20 percent of this amount. The new total of loans and investments therefore cannot exceed 88, which means that assets amounting to 32 must be sold to balance the accounts. Thus the 10 received from the Federal Reserve only provided 8 for actual use. The remainder of the 40 that was loaned on the strength of the additional Federal Reserve credit vanished as soon as an attempt was made to use it. "High powered money" is a myth.

The bank can lend for use by its customers any money that is actually obtained from some outside source – from depositors, from its stockholders, from the Federal Reserve System – but it cannot lend anything more. It cannot create any money for lending purposes. As the Federal Reserve publication that was quoted admits, this is "the practical experience of each individual banker," and any comprehensive theoretical study must necessarily arrive at the same conclusion.

Economists have generally regarded the setting up of a credit on the books to the bank as the significant banking transaction, and they assert that "deposits are mainly created by the banks themselves." Since they regard the deposits as money, this means that the banks are the principal sources of the "money supply." But this conclusion is the result of a failure to appreciate the significance of money storage in the operation of the economic system. When we get the

proper perspective, and realize that banks are primarily reservoirs in the money stream, we can see that the mere creation of a deposit by means of credit accomplishes nothing in itself. The loan by the bank *to* the customer and the deposit of the funds in the bank *by* the customer are *two* transactions, not merely one, even though they take place simultaneously and may be handled by means of a single piece of paper, and the two transactions have opposite effects.

The significant quantity is the amount of money in storage, the size of the bank's *reserves.* A deposit by a customer of the bank is an input into storage. It increases the reserves. A withdrawal from the customer's account is an output from storage. It decreases the reserves. A deposit set up by means of a bank loan is a balanced transaction that is neither an input or an output. The loan withdraws money from bank storage, but the return of this money to storage by means of the deposit completely nullifies all that was accomplished by the original withdrawal, and the bank reserves are not altered.

Here, again, it is essential to keep in mind that the absolute quantity of the circulating medium has no significance. It is the *rate of flow* in the circulating system that is important, and banking transactions affect the general operation of the economy only to the extent that they alter this rate of flow. The cooling system analogy will be helpful in getting a clear view of this situation. If we add water to a reservoir in this system, and it stays in the reservoir, then there is no change in the significant item, the rate of water flow. Under these conditions the added water has no effect on the cooling operation. It must leave the reservoir if it is to accomplish anything.

This point is of sufficient importance to justify stating it as another of the general principles of economic science.

> **PRINCIPLE XIV: The quantity of money existing within an economic system has no effect on prices or on the general operation of the system, except insofar as the method by which money is introduced into or withdrawn from the system may constitute a purchasing power reservoir transaction.**

The existing confusion in this area is largely a result of the *Quantity Theory of Money,* which is widely accepted in economic circles, and has considerable influence on the thinking of many of those who do not subscribe to the theory as a whole. Basically this theory rests on

the premise that the quantity of money in existence is exchanged for the quantity of goods in existence, and consequently any increase in the amount of money necessitates paying out more money for the same goods. The backers of the theory visualize a "supply of money" and a "demand for money" analogous to the supply and demand for wheat, and they deduce that an increase in the supply of money relative to the demand for money will cause a drop in the price of money (that is, an increase in the goods price level) just as an increase in the supply of wheat relative to the demand for wheat will unquestionably cause a drop in the price of wheat.

The flaw in this logic is, of course, that the premise is false. The basic economic process is not an exchange of goods for money; it is an exchange of goods for goods. Money only enters into the process as an intermediary, and since it is not changed in any way by the functions which it carries out, it can be used over and over again without limit. There is no "demand" for money in terms of quantity. It is entirely immaterial whether we use ten dollars once or one dollar ten times. Hence we can have *any* price level with *any* amount of money, subject only to the qualification that we must have enough money available to provide a working supply for each unit participating in the economic process. Similarly, we must have enough water in the cooling system to reach all of the parts that are to be cooled, but aside from this limitation it is immaterial whether we have only a few extra gallons in the circulating system or are connected to reservoirs containing thousands of gallons. If we have only a small amount, it makes the circuit frequently; if we have a greater amount it simply moves more slowly.

The original, or "crude" version of the Quantity Theory has been abandoned by most economists because it is very evident that the rate at which the existing supply of money is being used, the "velocity of circulation," is equally as important as the absolute quantity of money that is available. Present-day opinion among those who subscribe to this theory generally favors one version or another of the so-called "Equation of Exchange," which was expressed by Irving Fisher as

$$MV = TP$$

where M is the quantity of money, V is the velocity of circulation, T is the volume of trade in units, and P is the average price per unit.[124]

There can hardly be any question as to the mathematical validity of this equation. If we multiply the value of the existing stock of money by the number of times this stock was used during a specified period, we arrive at the total money value of the transactions during this period. Then if we multiply the total number of trade units involved in these transactions by the average price per unit, we must necessarily arrive at the same total. But the *meaning* of the equation is another manner. The conclusion which the supporters of the Quantity Theory draw from it, the conclusion that the price P is a function of the quantity of money M is totally unwarranted. As long as V is free to vary – which is true now, and will continue to be true as long as the use of money continues to follow anything like the present practice – price is a function of MV, not of M alone.

As it happens, there is an equation of exactly the same kind in the physical field – indeed, it is *identical* with the Equation of Exchange except in the letter symbols that are used – and a comparison of the conclusions which the economists draw from their equation with those which the scientists draw from exactly the same equation provides a graphic illustration of the reason why the attempts that have been made by economists to apply scientific methods to their field have been so uniformly unsuccessful. The equation which represents the behavior of the general properties of gases, the general gas equation, as it is called, is expressed as

$$PV = RT$$

If scientists employed the same reasoning as the economists they would deduce from the gas equation that the gas volume V is determined by the temperature T. But we do no such thing. On the contrary, we recognize that the pressure P is free to vary. The gas can occupy *any* volume at *any* temperature within the range of values in which the equation is applicable. In this instance, as in so many others, the economists have adopted a scientific form, but do not apply the scientific reasoning without which the form is useless, and consequently they arrive at conclusions that are totally different from those which the scientist draws from the same premises.

Most modern economists realize that there is *something* wrong with the Quantity Theory. Keynes, for instance, comments plaintively on "the extreme complexity of the relationship between

prices and the quantity of money, when we attempt to express it is a formal manner."[125] Samuelson points out (correctly) that the "key issue is whether V is constant," and notes that "one of the tenets of monetarism is that V is relatively stable and predictable."[126] As he no doubt realizes, there is no evidence to support this conclusion. It is simply an assumption introduced to reconcile the Equation of Exchange with the products of supply and demand reasoning. The Federal Reserve publication previously quoted has this to say:

> In assessing the effect on economic activity of changes in the money supply, it is important to recognize that there is no simple automatic measure of the appropriate relationship between the amount of money outstanding and the level of economic activity. A given volume of money, for example, can be associated with either higher or lower levels of spending – that is, can finance more or fewer transactions – depending on how often it is used.[127]

Here we have at least a partial recognition of the fact brought out in the previous discussion: that *any* volume of business at *any* price level can be financed by any quantity of money, as long as there is enough money on hand to reach all individuals who have use for it, just as any quantity of water can accomplish the task of cooling the engine as long as there is enough water in the system to reach all of the parts that are to be cooled. But few of the present-day "experts" are willing to give up the idea that the quantity of money must have *something* to do with the situation, and even the statement quoted above, which cuts the ground out from under the Quantity Theory as a whole, still implies that some "appropriate" relation exists.

The credence given the Quantity Theory is spite of its lack of validity stems largely from the observation that substantial increases in the money supply almost invariably do increase the flow of consumer purchasing power and therefore do raise prices. Those who have noted these price increases or decreases have jumped to the conclusion that the variations in the quantity of money are the *cause* of the price changes. This kind of reasoning, concluding that since B follows A, it must have been caused by A, is a well-known logical fallacy. There is no assurance that such a conclusion is valid. In the case under consideration it is completely in error.

Increases in the quantity of money raise prices only to the extent that they add to the stream of money purchasing power flowing to

the markets. New money that is not used in this way has no effect on the price level. If it goes directly into bank reserves, for example, it has the same status as if it had not been issued at all; it is merely stored in a different reservoir. The reason why most injections of new money into the system are inflationary is that the new money is almost always created for the purpose of providing additional money purchasing power for governments or individuals who wish to buy more goods than they have money to pay for. This means that the new money goes immediately into the markets and does raise prices. Nevertheless, it is not the creation of additional money that causes the inflation; it is the increase in the flow of money purchasing power, the effect of which is no different from that of an increased flow resulting from withdrawal of existing money from bank storage.

Credit transactions increase active purchasing power only to the extent that the money thus made available gets out into the purchasing power stream; that is, constitutes a *net* withdrawal from the money reservoirs. The measure of the additions to the current flow of money purchasing power due to bank transactions is neither the total loans, which are reservoir outputs, nor the total deposits, which are reservoir inputs, but the *difference* between the two, the net change in the bank reserves. Except as additional credit money may be issued, this difference between loans and deposits cannot exceed the amount of liquid capital put into the bank by its owners. It follows that bank credit as such (exclusive of the transactions that depend on the issuance of credit money) does not draw upon any new money purchasing power. It is merely a device whereby money already existing as bank capital and deposits can be withdrawn from storage and put to current use.

This means that bank credit by itself is not inherently a disturbing factor in economic life. On the contrary, it serves to some degree as a dampener of the fluctuations that would otherwise be caused by variations in the amount of money storage. But the economic effect of bank credit has been completely changed by the adoption of practices that make it possible to vary the amount of credit money issued through the banks practically without limit.

The term *credit money,* as herein applied, refers to any medium used for monetary purposes that does not constitute money in its own right (intrinsic money) and is not a representation thereof (token money). Currency is token money to the extent that it is covered by intrinsic money in the vaults of the issuing agency. It is credit money to the extent that it is not so covered. Coins are intrinsic money to the extent that the metal of which they are composed would be accepted as money without the imprint. They are credit money to the extent that value is added by the imprint.

Here we meet one of those curious theories so abundant in economics which are based on assumptions that are obviously unsound when they are isolated and subjected to examination, yet have such attractive prospects of getting something for nothing that they are continually cropping up in one form or another, and are seldom without a substantial body of support. There is one school of thought which objects to a classification such as that set forth in the preceding paragraph on the ground that currency backed by any other kind of tangible value is just as sound as currency backed by gold, and is the full equivalent of the latter. In its simpler forms this monetary theory is usually associated with the name of John Law, a Scottish financier of the eighteenth century.

Even in that day, the general public, finding themselves without money enough to buy everything that they would like to have, had lost sight of the fact that it was their inability to produce more goods that was limiting their purchasing power, and were blaming the shortage on an insufficient supply of money. It had already been demonstrated by costly experiments that simply printing additional money without adequate backing was disastrous, so much attention was being given to devising other means of accomplishing the same end. John Law argued that land, for instance, is just as truly an item of value as gold, and therefore currency backed by land values would be just as sound as currency backed by gold. In either case, the currency is only a claim against the underlying values. As might be expected, Law did not get a chance to experiment with his theories in conservative Scotland, but transferred his base of operations to France, and for a time was highly successful.

Finally his activities culminated in a wild orgy of speculation in the shares of one of his companies whose assets consisted mainly of concessions in the French possessions in the New World. Speculative values in what is now known as the Mississippi Bubble reached astronomical heights, and collapsed just as completely when the bubble burst, bringing widespread ruin in France, and disaster to John Law. Since that time "Lawism," the issuing of money on the basis of values other than metallic money, has generally been regarded as basically unsound. For the purpose of clarifying the relation of the credit process to the operation of the economic mechanism, however, it is desirable that we should recognize just *where* John Law's theory was defective.

If the holder of convertible gold-backed currency decides that he wants something more tangible, and turns it in for gold, the transaction is closed at that point. He has received what he wanted, and no value is lost in the exchange, even if many other currency holders decide to do the same thing at the same time. But if the currency is backed by land values, the holder is not through when he has converted it into the ownership of a parcel of land. Land is not money and is not accepted as such. In order to obtain a form of purchasing power that is readily usable it is necessary to sell the land, and this introduces a very large element of uncertainty into the transaction. There is no assurance that the land can be sold for an amount equal to the face value of the currency. On the contrary, it is all too likely that forced sales by those wanting to convert their currency into intrinsic money will seriously depress the price level, with the possibility of a panic always just around the corner.

The fallacy in Law's theory lies in its assumption that a representation of a physical commodity or asset has properties which that commodity or asset itself does not possess. When we get down to fundamentals it is clear that currency based on a commodity can constitute money only to the extent that the commodity itself constitutes money. Currency based on gold is money because gold is accepted as money. Currency based on land is not money because land is not accepted as money. It is true that currency *ostensibly* based on land may be accepted as money for a time, but this in not because it is backed by land values; it is because the credit of

the issuing agency stands behind it. In the final analysis, currency backed by anything other than intrinsic money rests upon credit. As long as the credit of the issuing agency is good – that is, as long as the public has confidence that the currency will be accepted at its face value as money – the currency is also good, but when that credit falters, the currency goes down with it, regardless of the backing that it is supposed to have.

An interesting point in this connection is that the Federal Reserve notes, the principal U. S. currency, are money of the John Law type. To the extent that this currency has any backing at all, aside from the credit of the U. S. government, it is issued on the strength of commercial credit instruments which are "rediscounted" by the member banks of the system. This is John Law's plan in slightly different dress. It is successful in this instance only because the government credit is good.

The outstanding characteristic of credit money from a functional standpoint is that there are no limitations on its volume. Other kinds of money are limited by physical factors. There is relatively little fluctuation in the total supply of intrinsic money. Except for the net change due to additions from mining operations and losses by diversion to industry, etc., the total world stock of the monetary metals remains constant. Issuance of token money does not add to this total, as this token money is merely a representation of a now immobilized store of intrinsic money. But the supply of credit money can be increased or decreased at will without any physical limitations.

From the principles developed in the preceding pages it is apparent that the significant effect of issuing or retiring credit money, in actual practice where the new money is always created for the specific purposes of financing additional spending, is to *vary the flow of purchasing power to the markets.* In the terms used in this study, these monetary operations constitute purchasing power reservoir transactions. When new money is being issued and poured into the purchasing power stream, prices rise. When existing money is being withdrawn from the stream and retired, prices fall, not because the *quantity* of money has been altered, but because the *rate of flow* has been changed.

A very important point in this connection is that no type of inflation or deflation increases or decreases purchasing power in terms of goods; any change is solely in terms of the circulating medium. When additional credit money is created for spending in the goods markets, this does not enable buying more goods; the same amount of goods is bought at higher prices. Purchasing power in terms of goods is not determined by the amount of money available for spending, but by the amount of production. The community as a whole is able to buy the volume of goods produced; no more, no less (aside from the relatively minor variations due to goods storage). If the quantity of goods V is given a price P in the production market by establishing an average wage rate, then the suppliers of production services receive, for these services, an amount of money purchasing power B, which is equal to the product PV, and is therefore just sufficient to buy all of the produced goods at a market price equal to the production price P. Under these equilibrium conditions the market price is determined solely by the production price – that is, by the wage rate – and it is completely independent of the total amount of money in the system. But if more credit money is issued and used in the markets, so that the active purchasing power is increased from B to cB, then the price level rises from P to cP because the credit transactions increase only the flow in the money purchasing power stream and leave the flow of goods at the original level V.

Credit is basically a transaction *between individuals,* irrespective of how complicated the actual credit mechanism may be. The ability of one individual to consume before he produces is entirely dependent on his ability to gain access to goods previously produced by other individuals. The economy as a whole has no such outside source of goods (aside from foreign transactions, which we will consider later), As a community we must produce first and consume afterward. We therefore have

> **PRINCIPLE XV: Credit can make goods available to one individual or group of individuals only by diverting them from other individuals.**

The significance of this principle is that any purchasing power *in terms of goods* that may be obtained by means of new issues of credit money can only be exercised *at the expense of those who take part*

*in the production process: workers and suppliers of capital services.* If the government issues more currency, it is able to buy goods therewith, or to provide subsidies to individuals or groups which they can use to buy goods, but the ability of recipients of normal income (wages, etc.) to buy goods is decreased proportionately. This fact is generally recognized in the case of severe currency inflation, as it has been demonstrated over and over again in actual practice, but it should be realized that this is a general principle which applies to all money inflation, including that resulting from banking transactions. New credit money obtained from the Federal Reserve and loaned by the banks has buying power only to the extent that the buying power of current income from other sources is decreased. The new currency increases *money* purchasing power, but it does not alter the *real* purchasing power: ability to buy goods. Principle XV cannot be evaded; credit can make goods available to one individual only by diverting them from other individuals.

The result is the same when the bank lends money deposited by its customers – that is, the depositors must forego the use of their purchasing power in order to make it available to the borrowers – but in this case the depositors are parting with their purchasing power only temporarily, and they are doing so knowingly and voluntarily. On the other hand, when the bank lends money from new currency issues, the purchasing power attached to this new money is permanently abstracted from consumers in general through the mechanism of an inflationary price rise, without their consent, and, under present conditions, without their knowledge.

The truth is that money inflation due to new currency issues is a tax. It has exactly the same effect as a tax on business; that is, it diverts a portion of the income of the consumers, by means of an increase in the general price level, to the government (if the government is the money-issuing agency, as it is in modern practice). Since the new money can be issued without the knowledge of those that are being taxed, this method of meeting part of the costs of government is increasingly being used by governments whose popular support is doubtful, and might not withstand the antagonism with which a tax increase would be greeted. It has not yet become a substitute for taxation in the United States, except in wartime (the Civil

War "greenbacks," for instance), but the operations of the Federal Reserve system have the peculiar effect of allowing the banks to accomplish the equivalent of taxation to finance business expansion.

As long as the demand for new loans does not exceed the available bank reserves, each loan amounts to a temporary transfer of funds from one individual (or agency) to another, and there is no effect on the incomes of the general public. However, if the demand for loans becomes greater than the banks are able to meet from funds on hand, some of the credit instruments that they have been holding are "rediscounted" with the Federal Reserve, which issues new money on the strength of this collateral. As brought out in Chapter 12, the entry of this new money into the active purchasing power stream raises the market price level, which means that consumers in general are (without realizing it) supplying the purchasing power requirements of the business enterprises out of their own individual incomes. If the upward and downward phases of the business cycle were symmetrical, the consumers (not necessarily the same individuals) would recapture their losses when the volume of loans again contracted and the banks paid off their obligations to the Federal Reserve, but the lack of symmetry previously noted prevents this balancing of the accounts if the cyclical swing is anything more than a minor movement. Thus we have here another reason why steps should be taken to control the cycle.

An important corollary of Principle XV is that *purchasing power (in terms of goods) cannot be transferred from one time to another.* It is commonly assumed that we have the option of spending today's income today or saving it for some future time. The individual obviously can and does exercise this option, but, aside from the saving that takes place automatically in the production of durable goods, the community as a whole cannot do so, beyond the very minor degree that producer storage of goods is feasible. Storage of the circulating medium does not aid in the purchase of tomorrow's output of goods, since tomorrow's production in itself generates all of the purchasing power that is necessary for buying the goods produced, and any additional amount of money purchasing power issuing from storage is not only superfluous but detrimental to the operation of the economy.

The foregoing comments apply specifically to goods as defined in Chapter IV; that is, things that satisfy human wants. However, we must also take into account certain things which have some of the properties of goods, although they cannot qualify under this definition. Unfortunately, the economic profession, not having looked at these items in the way in which they will be treated in this work, has not devised any terminology that will enable us to draw the distinctions that are vital to the inquiry, and it will therefore be necessary to coin some new terms. The characteristics of these quasi-goods on which the classification will be based are the same as those applying to the corresponding forms of money, and to emphasize the analogy and contribute toward a clear understanding of the presentation, the equivalent terms will be used. In addition to those goods which qualify as such in their own right, and have a standing analogous to that of intrinsic money, there are *token goods* and *credit goods.*

The term "token goods" will be used to refer to those things which are representations of goods actually existing. Included in this class are stocks, bonds, mortgages, warehouse receipts, and similar instruments. This classification should not be confused with the question of legal title. Bondholders, for instance, do not have legal title to the property involved, but the bonds do represent a certain portion of the value of the property; that is, they represent actual tangible wealth. While the bonds are outstanding, the values behind them cannot be made the basis for other such instruments. A ten million dollar corporation with three million dollars in bonds outstanding cannot persuade anyone that its stock is worth ten million dollars.

Creating token goods or retiring them does not alter the total amount of goods in existence. If a hundred thousand dollar home is mortgaged for fifty thousand dollars, this does not mean that there is now 150 thousand dollars worth of property that can be bought and sold; the total value is still one hundred thousand dollars. What has actually been accomplished is to split the hundred thousand dollar property into a fifty thousand dollar mortgage and a fifty thousand dollar equity, either of which can be sold independently of the other. The great bulk of present-day credit transactions, aside from

commercial accounts, involve the creation of such token goods, and these transactions only take place to the extent that capital assets are available to back up the token goods. As the cynic puts it, a bank is a place where you can borrow money if you can prove that you don't need it. Even though it was meant to be humorous, this definition is not without its merits. It calls attention to the point that bank credit is not normally available for the purpose of furnishing purchasing power to those who do not have it, but rather to provide a convenient means whereby those possessing purchasing power in some other form can temporarily exchange it for money.

As in the case of money, however, it has been found possible to create instruments which appear to be of the same character, but which rest entirely on the credit of the issuing agency rather than on actual physical assets. Government bonds are the outstanding example. These credit goods differ from token goods in that their creation is not limited by the physical realities. Since the creation of token goods does not alter the total amount of goods that can be bought and sold, the total volume of goods flowing to the markets remains just the same as if these goods did not exist. But the creation of credit goods is another form of reservoir withdrawal. It swells the stream of goods and hence has the same effect on the markets as the withdrawal of real goods from producers' storage. The volume of goods V now becomes eV, and if B is unchanged price P drops to P/e. The new equilibrium equation is

$$B/eV = P/e$$

But B does not normally remain unchanged, as the purchasing power obtained by the sale of credit goods is generally used in the markets. The original price P is then restored.

$$eB/eV = P$$

What has been accomplished by this credit transaction is that a volume e-1 of real goods has been obtained by the issuing agency without the need to make any monetary payment, and the individuals who would otherwise have received these goods now have the credit goods (government bonds or similar instruments) instead. The issuing agency, usually the government, has thus obtained something for nothing – at the expense of someone else,

as always. Credit goods, like credit money, are basically a device for accomplishing this purpose – getting something for nothing. Governments faced with abnormal expenditures or with insufficient revenues find it politically expedient to meet their financial problems by some means which do not involve direct levies on the citizenry. In earlier times the preferred answer was a resort to the printing press, and this solution of the problem is by no means out of fashion even yet, as a glance at the financial picture around the world will readily verify. But it has become quite clear that currency inflation plunges the nation into deeper trouble, and the more advanced governments have turned from credit money to credit goods as the best means of avoiding unpleasant realities.

The essential difference between government and private borrowing is that the private borrower is not permitted to evade these realities. He cannot, except in rather unusual circumstances, obtain money on pure credit. He must put up some kind of tangible security for the loan. What he actually does is to *sell* some asset on a temporary basis. The individual who borrows $20,000 on the strength of a mortgage on his home is, in effect, selling a $20,000 share of the ownership with an agreement that he will repurchase it after a specified period of time. Private credit transactions thus deal with real values; they involve the sale and purchase of *token goods.* Most government credit transactions, on the other hand, deal only with fictitious values; they involve the sale and purchase of *credit goods.*

The advantage, from the government standpoint, of raising money for spending purposes by selling bonds rather than by taxation is that the former conceals the true situation and postpones the day of reckoning to some future time when the task of putting the financial house in order will fall on other shoulders. As indicated by the equation $eB/eV = P$, sale of government bonds in the markets does not alter the general price level as long as the government spends the proceeds in the market. These and other credit goods have all of the economic characteristics of real goods up to the time of consumption, and the effect of their entry into the system is the same as if there were an increased production of physical goods. But the bonds cannot be consumed. Unlike real goods, they must be put back into the system and converted to something else before

they can yield any utility. They amount to no more than a claim against production, and they cannot be used except when and as workers and suppliers of capital give up real values to make the fictitious values good. To the government of the future there falls the embarrassing choice between two unpleasant alternatives: higher taxes or inflation. Either taxes must be raised enough to provide the money for redemption of the bonds, or new money must be printed.

One of the most unfortunate features of this situation is that the era of reckless finance, when the wealth of the nation is standing still or even slipping downward, has the appearance of prosperity, whereas the convalescent period, when sound progress is actually being made, is viewed as a trying and difficult time. This false and misleading impression is actively aided and encouraged by the prevailing methods of compiling economic statistics, which take price level variations only in an incomplete manner, and totally ignore the factor of credit goods. The level of money income has no real meaning in itself; it is significant only in relation to the price of goods. Economic well-being must be measured in *real* income, not in money income. In order to arrive at a measure that is representative of the true situation it is necessary to correct money income and money wages not only for the full change in the price level, but also for the amount of fictitious wealth that has been accepted in lieu of real wealth.

When we do this and get a true picture of the actual conditions, many of the anomalies that seem to exist in economic life are cleared up. We no longer have to wonder how it is possible to have "prosperity" in wartime, why labor can make "gains" and business can pile up profits while we are devoting most of our energies to destruction. It now becomes clear that there was no prosperity for the nation as a whole; there were no gains. What we saw was a mirage: an illusion created by government finance that must inevitably be followed by disillusionment. If we are to keep our feet on the ground during difficult periods of readjustment, it is necessary to realize that our headache is not due to the doctor's medicine. It originated at a time when everything looked rosy.

The foregoing comments should not be interpreted as a condemnation of all use of government bonds and other forms of credit goods. It is not the use, but the misuse, of such devices that

causes trouble. In reality, the practicability of creating credit goods which are the equivalent of real goods from the market standpoint provides a very convenient means of regulating the purchasing power stream. By issuing government bonds, selling them in the markets, and then retiring the currency received in payment, we can substitute credit goods for credit money, and diminish the purchasing power stream by the necessary amount. Likewise, by issuing new currency and repurchasing the bonds in the markets we can reverse the transaction and increase the flow of purchasing power.

If there is an inflationary withdrawal from the consumer purchasing power reservoirs which raises B to cB, market price would normally increase from P to cP, but by selling government bonds in an amount e, where e = c, and retiring an equivalent amount of currency, the market price can be held constant at the original level

$$cB/eV = P(c = e)$$

The outstanding advantage of this method of purchasing power control is that no individual gains or loses by the transactions. The exchanges that take place simply substitute an asset in one form for an asset of equal value in another form, and the desired effect on the economic system is accomplished without disturbing other economic relations. Facilities for handling transactions of this kind have already been set up under the auspices of the Federal Reserve System, and the use of these *open market operations* in a more systematic and organized manner for economic control purposes will be discussed at length in Chapter 25.

## CHAPTER 16

# Foreign Trade

One of the great tragedies of human existence is that so many of the issues which divide the race most sharply, issues which lead to dissension and ill-feeling, and all too often culminate in physical violence, are nothing more than phantoms: illusions that are founded on faulty observation, misunderstanding, or erroneous reasoning. A large part of the industrial strife that now constitutes one of our most serious domestic problems originates from the vigorous pursuit of objectives which fall mainly into two categories: (1) objectives which will be accomplished automatically in any event, irrespective of whatever effort is exerted for or against them, and (2) objectives which are inherently impossible to accomplish. All of the economic loss to the workers, to the business enterprises, and to the nation at large, as well as the social disturbances generated by struggles over such issues, are therefore incurred to no purpose. The participants in these unnecessary and fruitless conflicts are simply victims of misinformation and error.

But however serious the consequences of these futile industrial conflicts may be, they are far overshadowed by the results of equally futile and pointless economic disputes between nations. Industrial strife causes serious economic losses and may even lead to civil disorders, but international economic rivalry often leads to war, that greatest of human calamities. Historians are sharply divided as to just how large a part economic factors play in the origin of wars, but all agree that economic issues rank high among the important causes, and there are those who contend that *most* modern wars were basically of economic origin. L. L. Bernard, for instance, in his book *War and its Causes,* gives us this conclusion: "The immediate causes [of wars] are usually political or personal, but they have ordinarily arisen out of underlying economic conflicts and conditions."[128]

The costly and destructive wars that have had their origin in the pursuit of economic mirages are doubly tragic in that, unlike the industrial situation where the true economic facts are imperfectly understood even by the specialists in the economic field, most economic and political leaders have a reasonably clear grasp of the basic economic relations between nations, and the problems that are being experienced are due to their inability or unwillingness to transmit this understanding to the general public – largely inability on the part of the economists and unwillingness on the part of the political leaders. As Winston Churchill described the situation existing in the years immediately preceding World War II, "The multitudes remained plunged in ignorance of the simplest economic facts, and their leaders, seeking their votes, did not dare to undeceive them... No one in great authority had the wit, ascendancy, or detachment from public folly to declare these fundamental, brutal facts to the electorates; nor would anyone have been believed if he had."[129]

The lack of understanding of economic fundamentals among the general public is, to a large degree, the result of a misconception of the role of money in the economy. The value of money is almost always regarded as the fixed item in economic comparisons. As brought out in the discussion of fundamentals in Chapter 4, however, economic value is subjective, and highly variable. Under equilibrium conditions – that is, where there is no net flow to or from the reservoirs – the value of the local currency is an average of the true relative values, and therefore serves as an acceptable substitute for the fixed standard of value that does not exist. But the public perception of the currency is that it is an absolute (rather than relative) standard, and money is therefore regarded as the fixed element in the price structure. It follows that when unbalanced reservoir transactions take place, and prices respond, the resulting "high cost of living" is blamed on the increase in prices, whereas what has actually happened (except in emergencies such as wartime) is that the value of the currency has dropped by reason of wage increases (cost inflation) or diversion of purchasing power to recipients of new money (money inflation). The problem that has developed is not a real increase in prices, but a decrease in the real value of money.

The factor that is responsible for most of the variations in the true value of money is, of course, inflation. As explained in Chapter 12, *money* inflation is a phase of a cyclic process, and it is not cumulative. The *continuous* inflation that is characteristic of present-day economies world-wide is cost inflation. As stated earlier, this type of inflation has no effect on real wages (before taxes), or on business profits, and it therefore has little effect on the general operation of the economy. Economists have noted this fact, but have no explanation, and admit that they are puzzled by it. "The inability of analysts to find major costs (of inflation)," says Samuelson, "has led some to think that the aversion to inflation is a social phenomenon."[130]

Nevertheless, even though cost inflation does not work to the detriment of the average worker, it does give rise to serious inequities, because the factor offsetting the continuous rise in prices is a continuous series of wage increases, and under present conditions some workers receive earlier and larger increases than others. This eventually results in an unbalanced wage structure that is highly discriminatory, and also has some undesirable effects on foreign trade that we will examine shortly.

The other major effect of cost inflation is that it reduces the value of fixed interest obligations – bonds, mortgages, pensions, life insurance policies, etc. If there has been a 100 percent inflation in 20 years, which is about the U. S. rate, the true value of these fixed interest assets has decreased by half. This is obvious and incontestable, yet a large segment of the population, probably a majority, refuse to accept it because of their long – standing commitment to the opinion that *money* is the stable form of value. The U. S. Treasury Department, for instance, proclaims in their advertisements for savings bonds that "no one has ever lost a penny" in these bonds. In terms of money, this statement is correct. But the message that the statement is intended to convey – that the investment retains its original value throughout the life of the bond – is totally false. In twenty years the bond has lost half of its value.

The same concentration of attention on money value rather than real value can be seen in the profusion of arguments in favor of discontinuing the "indexing" of certain payments, particularly social security, whenever the nation finds it necessary to consider

reducing expenses. "Why should these people be receiving increases in their income while the rest of us are having difficulty making both ends meet on what we are now getting?" is the complaint that is repeated over and over again. The truth is that these are not "cost of living adjustments," as they are usually called; nor do they increase anyone's real income; they are inflation adjustments that are necessary to avoid actual *decreases*.

If the payments were made in some form other than money, the true situation would be clear to everyone. Let us assume, for instance, that instead of a money payment, the pensioner's contract with the government called for receiving 1000 gallons of diesel oil at specified intervals of time. Then let us further assume that the government revises the official definition of the "gallon," reducing its size by one half, so that on the next delivery the pensioner receives 1000 of the new gallons, leaving the tank only half full. Few would deny that in this case the government is defrauding its creditor.

This is exactly what happens if no "indexing" is applied to contractual obligations such as social security. The government, by means of its wage and monetary policies, continually redefines the value of the "dollar" in terms of buying power, the only measure that has any real meaning in economic life. A payment of the same number of dollars after a decrease in the true value of the dollar is no different from a payment of the same number of gallons after a redefinition of the gallon has reduced its size. If the creditors receive no more than the original number of dollars they are being defrauded. Those who see the indexing as an *increase* in the payments are being misled by the "money illusion" which makes a decrease in the value of money appear to the public as an increase in the price of goods.

The same considerations apply to all financial obligations of the government, but where the transactions are voluntary the terms of the contract usually contain some built-in protection against inflation. For instance, the interest rate on bonds set by the markets generally includes a component representing the anticipated rate of inflation, so that the net return to the bondholder approximates the normal interest rate. Some similar adjustments are applied in private transactions. The principal victims of the continuing cost inflation

are the owners of long term obligations, bonds issued when inflation was relatively low, private pensions (which are rarely adjusted for the full amount of inflation, if at all), insurance policies, etc. One of the most unfortunate features of the situation is that these investments that are the most subject to loss of value because of inflation are the types of investment (other than home ownership) in which most of the savings of the less affluent participants in the economy are concentrated.

The misunderstandings described in the foregoing paragraphs illustrate the point that the extent to which economic knowledge has been passed on to the general public is not much greater now than it was in the days to which Churchill referred. It is therefore necessary, in a work addressed to the public as well as to the economic profession, to review the entire international economic situation, with particular emphasis on those aspects of foreign trade that are usually minimized because they are distasteful to the voters.

In beginning this discussion we will look first at a domestic trade example which is closely analogous to foreign trade in almost all respects. Let us examine the economic status of a family operating an isolated farm. This group of individuals produces a certain quantity of agricultural goods. Some they consume, short-circuiting the market cycle. The balance over and above their own needs constitutes purchasing power, which the family is able to utilize to obtain various other goods from the "foreign" merchants in the nearest city. These city goods are not absolutely essential to the existence of the farm family. If necessary the farm operations could be organized in such a way that the family would be entirely self-sufficient. In fact, the normal farm life in pioneer days approached this condition. But the farmers have found that by increasing their production of those items to which their land is best adapted, they can gain a purchasing power that can be utilized in the city markets to purchase goods that would be difficult, if not impossible, to produce with the facilities available on the farm. At the same time, the workers in the city factories and stores get the benefit of the efficient large scale production of food on the farm. Thus both groups are enabled to enjoy a higher standard of living than would otherwise be possible.

It is evident that this process of exchange does not increase the total amount of work that has to be done on the farm; that is, it does not create any more jobs. Indeed, the ability of the farmers to buy good cloth or soap at a low price, instead of spending long hours making inferior products with their own inadequate equipment has actually reduced the amount of work necessary to maintain the same living standards, and if they so desire they may reap the benefit of the "foreign" trade in the form of increased leisure. But they also have the option of devoting all or part of the time thus saved to further production by means of which they can raise their standard of living.

It is also apparent that money is not essential to the transactions between farm and city; it is merely a convenience. The same final result could be reached by direct barter. The use of money to facilitate the process does not alter the fact that what has been accomplished is an exchange of farm products for city products. The farmers exchange their products for money, then turn around and exchange the money for city goods. The money was in the hands of the city merchants to start with – part of their working capital – and it is back in their hands when the transactions are complete.

In this case the use of money as a medium of exchange does not prevent us from seeing very clearly that the amount of city goods which can be obtained by the farm group is limited to the value equivalent of their farm products. Of course, they may have a small amount of cash on hand at any particular moment, representing the incomplete portion of a previous exchange transaction, which can be used in addition to their current production, and they may be able to get a certain amount of credit on the strength of anticipated future production, but it is obvious that they cannot continue buying in excess of their income from sales of their products. They cannot pay for goods in any other way than with goods (Principle II).

Here, as always, purchasing power is *created* only by production. It can be *borrowed* by means of a credit transaction, but only temporarily and in limited amounts. If the "foreign" merchants in the city are very anxious to sell greater quantities of goods, they may work out some kind of a long term credit arrangement whereby for a time the farmers may buy more than they can pay for; that is, more

than the value of their current production. Such credit may be fully justified if it is extended for the purpose of financing the purchase of fertilizer, tractors, or other goods which will ultimately increase farm production enough to pay off the loans in goods, but aside from this type of transaction, the merchant who extends credit to a farmer (or anyone else) for the purposes of enabling him to buy more than he produces is lacking in intelligence. He is certain to be left holding the sack in the long run.

Even in the case of loans extended for the legitimate purpose of increasing production, repayment will have to be made in *goods.* In order to be reimbursed, the city merchants must sooner or later buy more goods from the farmers than they sell to them. There is no kind of magic whereby payment can be made in any other way. If a merchant closes his eyes to this fact and continues to insist on selling more goods to the farm group than he buys from them, the ultimate result can only be cancellation of the debt through bankruptcy of the farmers.

Now, where does this situation differ from trade between countries? From an economic standpoint the only major difference is that the two countries have separate currencies, and the bankruptcy, if it takes place, comes about gradually by a progressive depreciation of the currency rather than suddenly by court decree. Otherwise, the same considerations apply. The benefits of foreign trade are exactly the same as those accruing from trade between farm and city. Each participant is able to enjoy a higher standard of living by reason of his ability to trade goods that he can produce efficiently for goods which he could produce only inefficiently, if he could produce them at all. This exchange of goods does not require either party to the transaction to do more work; that is, contrary to popular belief, foreign trade is not a job producer. In fact, the use of specialized goods produced on an efficient basis as purchasing power for buying foreign goods actually enables the same standard of living to be maintained with less work, as was pointed out in connection with the farm situation. Money in foreign trade is still only a medium through which goods are exchanged for goods, and above all, it is just as true in the case of foreign trade as it is in trade between farm and city that only goods can pay for goods. Any juggling by means

of credit or other devices can only postpone the day of settlement and increase the amount of goods that must be transferred from debtor to creditor to balance the accounts when that day finally arrives.

We can get a clear picture of the foreign trade situation by the same method of analyzing the flow of goods and purchasing power that was employed in the study of the domestic economy. As emphasized in the earlier pages, the basic economic transaction is an exchange of goods for goods. Thus foreign trade is essentially an exchange of domestic goods for foreign goods. But here, as in purely domestic trade, it is convenient to use money as a transfer medium. This separates each transaction into two parts, an exchange of domestic goods for money, which we call an export, and an exchange of money for foreign goods, which we call an import.

> **An *export* is an exchange of domestic goods or services for foreigners' money An *import* is an exchange of money for foreign goods or services.**

The terms "goods" and "money" are used in this definition in the broad senses in which they were previously defined; that is, "goods" includes services as well as commodities, and "money" includes everything that is accepted as money. Ordinarily exports and imports are visualized in geographic terms, commodities shipped out of the country being called exports, and those brought into the country being called imports. But there are other international transactions which are identical with commodity exports and imports, so far as their economic effects are concerned, although they do not have the same geographic aspects. Services rendered to foreign tourists, for example, are exports on the basis of the foregoing definition, while the services received by American tourists in foreign countries are imports.

The economic activities of resident aliens are part of the domestic economy, unless they send some of their earnings out of the country, or take them along when they leave. In that case the productive services corresponding to the money that leaves the U. S. are imports. Gifts of goods to foreigners are merely a form of consumption, and have no foreign trade implications. Gifts of money are claims against our future production, and therefore have the status of imports. In this case we are, in effect, importing, and paying for, goods of zero value.

An *investment* in a foreign country is a purchase of capital assets located in that country, and has the same immediate economic effects as the purchase of foreign consumer goods; that is, it is an import. However, those capital assets that remain in foreign countries participate in the economies of those countries, and therefore have a continuing effect on the international economic relations. Net earnings from foreign investments (payments for the services of capital) are exports from the U. S. standpoint, unless withdrawal of the funds is restricted, in which case the amount that cannot be withdrawn becomes an additional investment.

If foreign trade is kept on an even basis; that is, exports equal imports, the money purchasing power stream is not disturbed in either country. The total utility of the goods secured by means of this purchasing power increases, but the effect is the same as if domestic productivity rose a similar amount. Here there is no reservoir transaction, and the market price level remains in balance with production price.

Now suppose that we export more than we import. The flow of goods into our domestic markets decreases by the amount of the difference. But the exporters receive some kind of payment, money or credit instruments convertible into money, which can be used in the domestic markets. The flow of money purchasing power to the domestic markets therefore does not lessen, in spite of the decrease in the quantity of goods available for purchase in these markets. The price level consequently rises, and the American people have to pay the bill for the excess goods that have been exported. It may be hard to believe that we have to pay for these goods at the same time that the foreigners are paying money for them, but a close consideration of the market relations developed in Chapters 9 and 10 will show clearly that this is true. The inflow of foreign purchasing power, not balanced by a corresponding flow of goods to the domestic markets, is equivalent to an input into the purchasing power stream from one of the domestic money reservoirs, and it has the same effect in creating an inflationary unbalance in the system.

Looking at the situation mathematically, we begin with the normal relation $B/V = P$. If there is no change in production, then the diversion of goods to the export trade causes the volume of goods

flowing to the domestic markets to drop from V to eV, where e is a fraction, while the amount of money purchasing power available for use in the domestic markets remains at B. The new market equation for the United States, the exporting country, is then

$$B/eV = P/e$$

Since e is fractional, the equation shows that the price level in the domestic market rises.

If production is increased to take care of the export business, the volume of goods entering the domestic markets remains at V, but the money purchasing power available for use in these markets rises to aB because the increased production generates a corresponding increase in money purchasing power. We then have

$$aB/V = aP$$

The factor a is greater than unity, so again the result is a higher price level in the domestic markets. Thus, regardless of whether the export demand is met from existing production or from increased production, the result of an excess of exports over imports is an increase in domestic prices, an inflation of the price level.

Conversely, we find that an excess of imports reduces the domestic price level, irrespective of whether the imports replace domestic production or are in addition thereto. If the imports replace domestic goods, the total volume of goods entering the domestic markets remains constant at V, whereas the diversion of a portion of the money purchasing power stream to pay for the imports cuts the money available for use in the domestic markets from B to cB, where c is fractional. The market equation in this case is

$$cB/V = cP$$

If domestic production is maintained at the original level the money purchasing power in the domestic markets remains at B, but the total volume of goods entering these markets increases to eV because of the imports, and we have

$$B/ eV = P/e$$

In either case prices drop, and the consumers get more goods for their money. This is another result of the basic principle that only goods can pay for goods. Imports and exports are incomplete

transactions, and each remains incomplete until it is counterbalanced by a transaction of the opposite kind. Thus the consumers in an exporting country are temporarily subsidizing the consumers in the importing country.

Here we meet one of the strange paradoxes of modern economic life. The country which has an excess of imports is, for the time being, living partly at the expense of the exporting countries. Presumably goods will have to be exported at some later date to settle the accounts, but in modern practice the the ultimate payments are often substantially reduced by inflation or some international agreement. From this, one would naturally expect that an import excess would be highly popular, but the fact is that all nations fight tooth and nail to increase their exports, and impose all manner of restrictions on imports.

The explanation for this contradictory behavior is that as long as the true cause of inflation and deflation is not recognized, and the cyclical movements of business are allowed to continue unchecked, exports contribute an inflationary effect and imports a deflationary effect on the domestic economy, as can be seen from the equations just presented. Money inflation is popular in business circles, since it has a favorable effect on profits. There is usually some grumbling about the “”high cost of living” from the consumers who have to pay the higher prices, but this is offset to a large degree by the increase in employment that accompanies money inflation. Deflation, on the contrary, is unpopular with everyone. The businessman finds it difficult to maintain a profitable operation, or even to continue operating at all, while the consumers, even though they have the benefit of lower prices, are continually faced, in their capacity as workers, with the menace of unemployment or reduced wages (“give-backs”). As long as the domestic economy remains uncontrolled, it can therefore be expected that exports will continue to be promoted and imports restricted.

But the attempt to maintain a continuing excess of exports over imports, a “favorable balance of trade,” is, in itself, a costly mistake. It gains nothing, and creates problems of payment or debt repudiation that will cause trouble sooner or later. In reality there

is no "favorable" balance of trade in either direction. Any balance whatever is unfavorable from some standpoint. The only favorable condition, the only one that can persist indefinitely with full justice to all participants, is an equilibrium between exports and imports. What should be done is to take care of employment, and the other domestic problems that are now entangled with the foreign trade situation, by the means appropriate to each of them, and then deal with foreign trade problems on their own merits.

As indicated in the foregoing discussion, foreign trade is a money reservoir, so far as its effect on the circulating purchasing power stream is concerned. Government borrowing from foreign sources is also a reservoir withdrawal. The net amount of the foreign transactions is therefore one of the components of the total reservoir inflow or outflow, the quantity that must be counterbalanced in order to stabilize the economy.

One of the prolific sources of economic controversy in many countries, including the United States, is the extent to which some, or all, domestic industries should be protected against foreign competition by means of tariffs, quotas, or other devices. In the United States the principal argument for protection originally offered was that "infant" industries need to be shielded until they are strong enough to hold their own in the world market. This has gradually been replaced by the argument that the relatively high wage rates in the United States cannot be maintained unless there is some protection against competition from low wage foreign products. The opposing view is that the protective measures would simply invite retaliation by foreign countries, with the eventual result of stifling what would otherwise be a mutually profitable exchange of goods.

In analyzing this wage protection argument, we again need to take note of Principle II, that only goods can pay for goods. If foreigners sell us certain goods valued at x dollars, the only way in which they can receive payment for these goods is to buy x dollars worth of U.S. goods or other assets *at U. S. prices*. Thus the loss of employment at U.S. wages in the industries affected by the imports is counterbalanced by an equal gain of employment at U. S. wages in the exporting industries. It follows that the relative wage levels in

the United States and foreign countries have no detrimental effect on employment if the self-balancing features of the international trade system are allowed to operate.

Unfortunately, they have *not* been allowed to operate. In recent years the United States has followed fiscal and monetary policies that have greatly favored imports over exports, with a consequent adverse effect on employment. The acute problem that exists at the time these words are being written is primarily due to the heavy borrowing from foreign countries that has been undertaken to finance the large budget deficits. This money that our nation is now borrowing is money that would otherwise have to be used for the purchase of U.S. goods. Unless the foreign holders of our currency are willing to accept more of it, and just pile it up in their vaults for future use, which is unlikely, in view of the large amounts of that currency that they already possess, there is no way in which they can use the proceeds of their exports to us than by U.S. goods or other assets. Thus every billion dollars that we borrow from foreign sources reduces foreign purchases in the United States by one billion dollars.

We are being told that in order to regain the export market we must "improve our competitive position"–produce better products more efficiently. There may be some truth in this assertion, but this is not our primary problem. The result of losing business to competitors is a decrease in the *volume* of trade. Our problem is not a lack of volume, but a large *unbalance* between exports and imports. This is a *money* problem, due to excessive borrowing.

Of course, some of the money now being borrowed from foreign sources, had it been available for purchases, would have been invested in American business enterprises or in real estate, but internal economic conditions in the foreign countries limit the amount that can be applied to investment. The lion's share would have gone toward keeping exports in line with imports. In soaking up the exchange balances that are needed to finance purchases of U. S. goods we are not only imposing a huge debt burden on future generations, but are also destroying existing American industries and depriving our working population of employment.

The ordinary citizen can hardly be expected to understand this cause and effect sequence. Some economists do, but many others are prevented from so doing because they have lost sight of the fact that the basic economic process is an exchange of goods for goods, and have accepted the concept of an autonomous demand. This is a graphic example of the need for, and the importance of, the kind of a *factual* analysis of economic processes that is here being accomplished by the application of scientific methods.

One of the reasons why the loss of export business due to diversion of foreign buying power to deficit financing has had such a serious effect on American industry is that this new problem has been superimposed on some long-term trends that have been increasingly significant in recent years. In earlier days, the United States was far enough ahead of the rest of the world technologically to be the only satisfactory source of many specialized items, and American goods in general had world-wide acceptance as high quality products. More recently there has been a diffusion of this technological knowledge among many nations, and the monopolistic position of the United States has largely disappeared. As a result, some of the features of the domestic economy that have a bearing on foreign trade have assumed an importance that they did not have in the era when American technology was well ahead of the field.

Under present conditions, the most significant item of this kind is the existence of large wage differentials *between our domestic industries.* The existing wage structure in the United States is not a product of the forces operating within the economic system; it is an arbitrary and highly unbalanced result of application of coercion and political pressure by the participating groups. The existence of this unbalance opens the door to exploitation by foreign producers. They are able to sell their products at, or near, the prices prevailing in the high wage industries such as automobiles and steel, and buy at the prices of the low wage industries, profiting by the price differential.

It follows that under a free trade policy the high wage industries will continue to have difficulty competing with foreign producers, since at least some countries will maintain more balanced wage structures. Allowing this situation to continue is certainly not in the

national interest. Thus the real issue is not between protectionism and free trade, but between protectionism and reform of the wage structure. The choice between these alternatives is a matter of opinion and judgment. As such it is beyond the scope of economic science. It is interesting to note, however, that Japan and some of the European nations have taken steps in the direction of control of wages. As reported by Galbraith, this "has been their socially better answer to the wage-price dynamics and the resulting inflation."[131]

The unbalanced wage structure has had a devastating effect on some of the industries that have to buy their equipment and supplies at the high wage prices and sell their products at the low wage prices. The farmers' problems are the most visible effects of this kind, but the maladjustment is widespread. To the extent that this situation has been officially recognized, the usual method of dealing with it is to provide subsidies coupled with restrictions on production, all at the taxpayers expense. This is a political problem, not a problem of economic science, and like most political problems it has no specific answer, but it should be noted that the analysis of economic fundamentals in the preceding pages shows that when we subsidize the *status quo* we are not actually subsidizing the farmers. They are in their present unfavorable situation only because of the unbalanced wage scale. What we are doing is subsidizing the high wages of the more favored industries. Whether or not such a subsidy is advisable is a political question, not an economic question, but in any event the economic facts bearing on this matter should be recognized.

Our finding that the real cause of the loss of employment in automotive manufacturing and other high wage industries by reason of foreign competition is not primarily due to the trade policies that the foreign nations and their manufacturers have followed, but to our own highly unbalanced wage structure, and our policy of living on borrowed money, illustrates an important feature of international economic relations; viz., that most of our problems in the foreign trade area are products of our own actions, or failure to act.

If we have our own affairs in order, we cannot be seriously hurt by any commercial action of a foreign country. Any country that sells us goods at less than normal prices is doing us good, not harm.

Any country that asks an exorbitant price for its products simply does not sell us anything. In dealing with third parties, we may be undersold, either on price or on quality, but if so, we have no one to blame but ourselves, and our losses cannot be serious in any event. It is possible that some foreign nation might take an economic action that would inflict what we would consider an unfair loss on some individual producer or industry, but as long as such actions have no adverse effects on the economy as a whole we should be able to work out some means of compensating the individual losers.

In some instances it may be considered advisable, as a matter of national policy, not to rely on foreign sources for certain kinds of goods, and even though our government may wish to encourage foreign trade in general, it may impose tariffs or import restrictions to prevent or reduce the importation of these goods. Economists generally recognize that such restrictive policies are costly to the nation that adopts them, but since they are put into effect for specific purposes, the issue in each case is whether the benefits obtained are sufficient to justify the cost. Such questions will not be considered here, as they involve mainly non-factual issues and are therefore outside the scope of economic science.

International trade is beneficial to all countries which take part in it, and consequently we are serving our own best interests, as well as contributing to the welfare of the rest of the world if we gain a better understanding of the true economic relationships, and arrive at a realization of the desirability of removing the artificial obstacles that have been placed in the way of free trade between nations. But we should not exaggerate its importance. Foreign trade is not *essential* to our economy. In the case of a large and self-sufficient economy such as that of the United States, even a complete elimination of all international transactions would have very little effect after the initial dislocations were ironed out.

There are, it is true, some items which we use but do not produce, and it would be necessary to find domestic sources of such items or find acceptable substitutes, but these problems could be met without any serious difficulty, just as we met the rubber shortage during World War II. The oft repeated statement that we *must* have foreign markets

is pure rubbish. To put this statement into its proper perspective we need only to consider what would happen if the rest of the world suddenly ceased to exist. Would we face a dire catastrophe? Certainly not. We would have a few annoyances until we became adjusted to substitutes for such items as coffee and bananas, but in general, life would go on just about the same as before.

If we set our own house in order, stabilizing the economy to eliminate booms and depressions, and maximizing employment by appropriate measures of the kind discussed in *The Road to Full Employment,* the only effect of foreign trade on our economy will be that we will gain the amount of the difference in value between our exports and imports. This is an appreciable amount, to be sure, and we would not want to sacrifice it unnecessarily, but it is not of sufficient consequence to be allowed to stand in the way of peaceable and friendly relations with foreign countries.

The whole issue of international economic competition is sorely in need of a thorough reexamination. We are constantly being exhorted to take actions that will make our products "more competitive," and disputes over trade issues are a familiar feature of the political landscape. As brought out in the preceding paragraphs, the remedy for any irregularities that may exist in bilateral trade lies in correcting the economically unsound practices in our domestic economy that are leaving openings for foreign producers to exploit. We do not necessarily have to abandon these practices. But if we decide that we want to continue a policy that affects foreign trade – the highly unbalanced wage scales, for instance – then we should apply appropriate countermeasures to our own operations, rather than expecting the foreign nations to solve our problems.

When the problems of bilateral trade are thus smoothed out, the remaining trade issues will be those involving competition in selling to third parties. The prevailing concern about this situation is actually a relic of earlier days when the political organization of society was very different from what it is today. Some small independent political units – city states such as Venice, for example – adopted trade as their primary activity, and competed with each other for the available foreign business, just as rival *firms* do today. Under

these conditions it was indeed necessary to be competitive. But as nations of the modern type emerged, foreign trade has decreased in importance relative to economic activity as a whole. And since only a fraction of that trade is subject to third party competition, the strong emphasis on being competitive is no longer warranted. If we adjust our economic policies to get the best results from the domestic economy, our foreign trade will not suffer much, if any. In any event, the vulnerable portion of that trade is too small in proportion to our total economic activity to be a serious concern.

Recognition of these facts will remove a major cause of international friction and thus make a significant contribution to the cause of international peace and amity. One important result will be to eliminate any excuse (aside from debt settlement) for interfering with the internal economic affairs of another country. All too often, as matters now stand, a nation that has been following a sound economic policy is subjected to pressure to modify that policy for the benefit of other nations that are having difficulties because of their own actions. For instance, as these words are being written, West Germany and Japan are being urged by the United States to "expand demand" (which means adopt an inflationary policy) to ease some of the U.S. problems. These are problems which have arisen mainly because the United States has been following its own bad advice. The remedies are in our own hands. We should not expect foreign nations to bail us out of our troubles.

This is not an exceptional case; it is an example of a general situation. The results that we obtain from our economy depend on the nature of our economic policies, not to any significant extent on the actions of foreign countries, except insofar as they take advantage of openings that we have created for them. Once this is generally understood, there should be no obstacle to peace in international trade relations, even though rival *firms* will continue maneuvering for advantage. As Keynes once said, "If nations can learn to provide themselves with full employment by their domestic policy... there need be no important economic forces calculated to set the interest of one country against that of its neighbors."[132]

## CHAPTER 17

# The Dollar Abroad

As explained in Chapter 15, continued experience with the use of intrinsic money during the early stages of the development of international trade resulted in the gradual elimination of the less satisfactory kinds of money-goods, and eventually led to general acceptance of gold as the primary form of money. The next development, in the nations with the principal trading roles, was to put their respective currencies on a *gold standard* by making them convertible to gold at fixed rates. The exchange rates, the values of each currency in terms of each of the others, were thus restricted to a narrow range of variation determined by the cost of shipping gold. If the value of the British pound in terms of dollars, for example, rose above the higher limit, the gold export point, dollars were exchanged for gold, and the gold was shipped to England. Similarly, if the value of the pound dropped to the lower limit, the gold import point, it became profitable to exchange pounds for gold in England and ship the gold to the United States.

Even within the relatively narrow range between the gold import and export points, the variation in exchange values had a substantial regulating effect on international trade, and indirectly on the domestic economies in all of the trading nations. A decrease in the exchange value of the dollar reduced the cost of U. S. goods in terms of foreign currencies, and thus stimulated exports. But these increased exports then increased the foreign demand for dollars with which to make payment, and this, in turn, raised the value of the dollar back toward the equilibrium point. If an unbalance one way or the other continued long enough to make transfer of gold necessary to settle the accounts, further regulation was accomplished by actions to conserve gold resources which were taken by the monetary authorities of the nations that were affected.

But these self-regulating features of the gold standard mechanism were capable of operating only under a limited range of conditions. They were not adequate to deal with a *large* unbalance in the international accounts. The enormous purchases of American goods by foreign governments during World War I were far beyond the capacity of the exchange system to handle, and the gold standard was abandoned during this emergency. Attempts were made to revive it after the war, but in the meantime another obstacle had developed, the nature of which is not fully appreciated even yet.

The value of gold under present-day conditions is purely arbitrary, and hence there is no inherent relationship between its value and that of the currency of a major nation such as the United States. If they are not interconvertible, the two kinds of money are totally independent. If they are interconvertible, the government has enough control over the situation to be able to set the rate of conversion arbitrarily, within rather wide limits. So far as the domestic economy is concerned, what this amounts to is setting an arbitrary value for gold in terms of goods; that is, establishing the real value of gold in the United States.

The government of any other major nation can likewise establish an arbitrary relation between its currency and gold, and thus define the real value of gold in that country. (A small nation might run into some practical difficulties.) But if the currencies are convertible to gold, no two countries can establish *different* real values for gold, since this would simply drain all gold out of the country in which it had the lower value. The international gold standard is therefore feasible only if there is sufficient flexibility in the price systems of the different countries to permit the local price levels to adjust themselves to the international real value of gold. As brought out in the earlier discussion, the price level is determined in the production market. The production price must therefore be flexible, and since wages are the principal constituent of the production price, this means that the international gold standard can be maintained only if money wages in all countries are flexible enough to permit the general price level in each country to adjust itself to the international real value of gold, the value in terms of goods.

In the era of the gold standard this wage flexibility was a reality. If the real value of a local currency dropped below the international

standard, profit margins decreased, and to protect their positions the employers reduced wages. In the reverse situation, increased demand for labor resulting from higher average profits was soon translated into higher wages by the competitive process. Thus any significant change of the price level from its proper position relative to the international real value of gold was promptly corrected by appropriate adjustments of the wage structure. In the years since World War I, however, this wage flexibility has been almost completely eliminated. As matters now stand, a general reduction of wages is practically impossible, except in major emergencies such as severe depressions, and wage increases are sought and granted with little, if any, regard for the effect on prices. Under present conditions the wage level is essentially arbitrary, and since the market price level is determined by the wage rate, the real value of each national currency is determined by this arbitrarily established level of wages (in terms of wage payment per unit of output).

If we represent the real value of the currency, the general price level, and the wage rate per unit of output by C, P, and W, respectively, we can express the fact that the real value of the currency of country A (its buying power) is the reciprocal of the general price level in that country by the equation $C_A = k/P_A$, where k is a constant that depends on the units in which C and P are expressed. By a proper choice of units we can make k equal to unity, in which case the equation becomes

$$CA = 1/P_A$$

As explained previously, the normal market price level is equal to the production price level. We have now seen that the latter is determined by the wage level. This is, of course, the *money* wage, but it is not necessarily the amount that the worker receives in his regular paycheck. In modern practice, a part of the wage or salary is received in the form of what are called "fringe benefits"–pensions, paid vacations, insurance, medical benefits, etc.–which are just as much part of the compensation for labor as the payments in cash. Business taxes reduce the amount of revenue that has to be raised by taxing individuals, and thus are also additions to the workers' compensation. In applications such as the analysis of exchange rates, where we are dealing with two or more economies that operate

under different conditions, it is necessary to put all wages on the same basis by correcting for the effects of these modifications of the wage payments. With this understanding, we can substitute W for P in the foregoing equation. Again eliminating the constant of proportionality by an appropriate choice of units, we have

$$CA = 1/W_A$$

What this equation says is that the real value of the currency varies inversely with the level of money wages per unit of output; that is, if the wage rate is reduced, or if productivity increases while the time rate of wages remains constant, the real value of the currency increases, whereas if the wages per unit of time are increased while productivity remains constant, the real value of the currency falls.

The ratio of the real value of the currency in country A to the real value of the currency in country B, the *exchange rate* under conditions of free exchange, is equal to the inverse of the ratio of money wages per unit of output in the two countries.

$$C_A/C_B = W_B/W_A$$

This equation shows that it is mathematically impossible to control the two ratios independently of each other. If the exchange rate, the ratio of the values of two currencies, is fixed, as it is under the gold standard, this establishes the ratio to which the wage rates must conform. On the other hand, if wage rates are to be set by government decree, or by bargaining, or by any other process that does not reflect free market conditions, then the true ratio of values of the two currencies will necessarily fluctuate. Free convertibility to gold is impossible under such conditions, and fixed exchange rates can be maintained only by strict controls over currency transactions and over the "black markets" that inevitably spring up when government attempts to force economic transactions into an arbitrary pattern.

Many economists have advocated a return to the gold standard as a means of overcoming some of the current problems of international trade and finance, but this is another of those instances in which the economists have centered their attention on the question as to what, in their opinion, *should* be done, to the exclusion of the question as to what *can* be done. No one is naive enough to believe that it is possible to return to the former flexible wage policy – to again give

the employers the power to make arbitrary adjustments of wages up or down to conform to market conditions – and without this, or some equivalent means of attaining cost flexibility, the international gold standard is an impossibility. Any *one* country could make its currency convertible to gold, but as long as wage rates are determined arbitrarily, rather than being allowed to adjust themselves to the markets, the real values of the various currencies cannot maintain the constant relation to each other that is the essence of the gold standard.

Before World War I the exchange ratio $C_A/C_B$ was held constant by a fixed relationship between each currency and gold, and the wage ratio $W_B/W_A$ had to conform. International finance was then on the gold standard. Now the wage ratio is determined by arbitrary actions in each country, and the true exchange ratio has to conform. As J. R. Hicks expressed it, we are now on the labor standard.[133] It has to be either one or the other. It is mathematically impossible to apply an arbitrary control to *both* sides of the wage-currency equation, and hence we cannot have both the labor standard (that is, our present arbitrary methods of establishing wages) and the gold standard (an arbitrary relation between each currency and gold).

Furthermore, the same is true of *any* fixed exchange rate, irrespective of whether or not it is tied into gold. As long as wage rates are determined arbitrarily in each country, the ratios of the real values of the currencies will vary, and since this ratio is the true exchange rate, maintenance of fixed exchange rates is impossible except as a short term proposition.

If the value of a country's currency drops in international exchange, the reason normally is that its money wage rates are too high relative to its productivity, and its price structure on the basis of the official exchange rate is therefore excessive, which encourages imports and discourages exports. If the exchange rate is permitted to drop, this corrects the situation by increasing exports and reducing imports, thereby leading to a new exchange equilibrium at a more realistic level. But if an attempt is made to hold the exchange rate at the high official level, the excess of imports continues, and the problem becomes more acute.

It is unfortunate that this purely factual question as to the value of a currency should be so closely identified in governmental thinking with

the matter of national prestige. There is a rather general impression that a decrease in the exchange rate of a country's currency indicates a weakening of international confidence in the soundness of the currency, and of the national economy which it serves. In some cases this is all too true. Where a government tries to live beyond its means and resorts to excessive borrowing or to currency issues to obtain the funds that it cannot get from taxation or other legitimate sources of revenue, confidence in that country's currency is undermined and its exchange rate falls. But this is not the usual reason for fluctuations in the exchange rates. Every currency has a real value, a buying power in terms of goods, and since that buying power continually changes because of wage adjustments, technological improvements, etc., the real value of the currency likewise changes. All that the fluctuations of the exchange rates normally mean is that these rates are following the ratios of the real values. Confidence has nothing to do with this. No matter how sound a currency may be at its real value, one cannot have confidence that it can be artificially maintained at a point above that real value.

While the reasons for the inability to maintain fixed exchange rates are still not generally understood (as the continued high level of support for a return to the gold standard demonstrates), it is recognized that the attempts to maintain fixed rates have failed. As matters now stand, therefore, the rates are being allowed to "float" at the ratios determined by the markets. Nations that are experiencing financial difficulties do set "official" rates of exchange, and prohibit currency transactions at other rates, but this policy is not very successful. It not only impedes trade with other nations but also leads to the growth of a black market in which currencies are exchanged at illegal rates that are closer to the true relative values.

The abolition of fixed exchange rates by the major trading nations occurred only after a great deal of opposition was overcome. This is not the kind of an action that encounters any serious opposition from the general public. There are a few places where the exchange fluctuations are quite visible. The relative level of the U. S. and Canadian dollars, for instance, has a substantial effect on business relations on both sides of the border. Tourists and other travelers are also very conscious of any change in the value of their money. But the effects of variations

in the exchange rates are not usually visible to the general public, and there is no general interest in how they are determined. The opposition to free exchange rates comes mainly from government agencies which are overly concerned with the prestige aspect, and from special groups such as the bankers who feel that their operations are facilitated by the existence of fixed exchange rates.

These opponents warned of dire consequences if their opposition was overruled. "Devaluation or adoption of floating exchange rates," the American Bankers Association said, while the change to floating rates was under consideration, "would do irreparable damage to the international monetary system, and to the economic, military, and political strength of the entire free world."[134] As so often happens in economic affairs, however, all that this amounts to is an emotional statement with no factual backing. There is no theoretical reason why there should be any disadvantage in allowing the exchange rates to reflect the real value of each currency rather than a fictitious value set arbitrarily by some government agency, and experience has flatly contradicted the gloomy predictions emanating from the bankers.

It may be of interest to note that Keynes was favorably disposed toward freely floating rates. As reported by Harris,[135] "Keynes contended that in a world of economic rigidities, particularly in wages and prices, the economy must give somewhere, and the most likely area is the exchange rate."

The arbitrary "official" exchange rates cannot be maintained for more than a relatively short time in any event. The farther the official rate gets away from the true ratio of values the more difficult it becomes to hold it, and sooner or later it is necessary to revise it upward. The actual effect of controlling the exchange rate, therefore, is not to *prevent* adjustment of the currency values to more realistic levels, but to cause the adjustments to take place in sudden jumps rather than by slow and gradual changes. The damage that is done to what would otherwise be a profitable international trade is a high price to pay for the very dubious advantage of being able to administer economic medicine in big doses rather than small doses.

It is true that the present state of international finance is far from satisfactory. Far too many nations are unable to generate the foreign exchange needed to pay for imports and meet their commitments

with respect to their international debts. There is a tendency to blame the monetary exchange system for this shortage, and efforts are being made by the economists and money managers to devise some kind of cure for the ailments. One experiment now being tried, in a rather half-hearted way, is the creation of a kind of international currency in the form of "special drawing rights" (SDRs) which nations can draw upon when they run out of foreign exchange.

This experiment has not accomplished its objective. On the contrary, the international balance of payments situation has gotten worse rather than better. But the failure was inevitable, as this was an attempt to do something that is impossible. The reason a nation runs out of foreign exchange is that its international spending (its imports and other foreign expenditures) has exceeded its international income (its exports and other receipts from foreign sources). It has been living on credit, and it has exhausted that credit. Now it must face the reality that, in the long run, only goods can pay for goods (Principle II). No financial juggling, however ingenious, can avoid this unpleasant fact. Unless a gift can be obtained from some other country, or from the international community, or the nation is desperate enough to take the drastic step of repudiating the debt, more goods must be produced for export at the expense of the domestic standard of living.

The plain truth is that a nation that has no foreign exchange is in the same position as an individual who has no money. It has no purchasing power. The only cure for this disease – lack of purchasing power – is increased production, because production is the only *source* of purchasing power, (other than gifts from more prosperous nations, which are necessarily limited and temporary). The SDRs and other financial schemes that the international monetary authorities are trying to devise are simply attempts to evade the economic realities.

Although the immediate purpose of the SDRs was to provide additional credit for nations undergoing what was considered to be a temporary shortage of foreign exchange, the creation of such a support system was influenced to a considerable extent by the desire of the financial authorities to have an international currency, something that would assume the role that gold used to play in an earlier and simpler era. The term "paper gold" that is widely applied

to the SDRs is a reflection of the status that it was hoped they would have in international finance. That hope, however, has no chance of being realized, for at least two reasons. First, neither these "rights" nor any other international money has any *assured* value. Such products are not intrinsic money; they are purely credit money. As such, their value is entirely dependent on the credit of the issuing agency, and under present conditions an international agency has no credit. The extent to which the "rights" will be accepted in lieu of money depends on the attitude of individual nations, and it is safe to predict that, after s few sad experiences, the nations that find themselves paying the bills for the extravagances of others will take steps to see that the credit obtained from international agencies is strictly limited.

The second reason why an international currency is not feasible under present conditions is the same one that prevents a return to the gold standard, and stands in the way of fixed exchange rates – the fact that an international standard of value is impossible as long as each country is free to set wage rates arbitrarily, thus making the true value of its currency arbitrary. It has been proposed that, in order to overcome this objection, the international medium of exchange should be tied to a "basket" of commodities to stabilize its value, but this does not solve the problem. A basket of commodities is not accepted as money, and therefore is not money. This is just another version of John Law's monetary ideas. Support for the proposals therefore been limited.

In the absence of an international currency since the demise of the gold standard, it has been necessary to handle international financial transactions by means of the various national currencies. For the same reason that resulted in gold displacing the many other types of intrinsic money that have been utilized, there has been a general tendency to use only the most stable of these national currencies as the international standard of value. In order to be stable, in this sense, the currency must be issued by a nation that has a solid political establishment that can be relied upon to maintain a steady course, has an economy that is large enough to accommodate the variations in the international transactions without excessive dislocation of its domestic equilibria, and is relatively resistant to inflationary

pressures. On these grounds the U.S. currency has become the *de facto* international standard.

It must be conceded that U.S. currency is not a fully satisfactory form in which to keep these reserve funds, because their value decreases as inflation reduces the value of the U.S. dollar. But, as matters now stand, there is no better alternative. Gold is no longer satisfactory for this purpose, as its value as intrinsic money – that is, its value as a commodity – no longer has much significance. The value now attributed to it contains a large and highly variable speculative component, which means that this value is primarily credit-created, in the same sense as the value of currency, without the stability of a government-backed currency.

The international use of U.S. currency is, in some respects, advantageous to the United States, but it also has some potential dangers that should have serious consideration. The currency holdings in foreign countries are claims against U.S. assets, and they can be used at any time and in any quantity. There is always a possibility that the financial stability of a nation may be called into question for one reason or another, and if the United States were to get into such a position, the huge foreign holdings of U.S. currency could have very damaging effects. As we saw earlier, foreign purchases of U.S. goods raise the general price level in the United States. Large purchases could produce a money inflation that would disrupt the U.S. economy.

The dangers inherent in the existence of the large foreign holdings of U.S. currency are now greatly increased because they are accompanied by vast amounts of U. S. government and private interest-bearing obligations. A currency crisis resulting from a loss of confidence in the stability of the U.S. economy could easily cause heavy selling – perhaps even panic selling – of these securities and conversion of these claims into goods. This possibility with which we are now faced is something like a run on a bank. Like the banks, we have outstanding a much larger total of obligations payable on demand than we are able to meet on short notice As in the case of the banks, therefore, our present financial situation is stable only because our creditors do not demand payment of any large portion

of these obligations simultaneously. The whole financial structure thus rests on foreign confidence in our economic stability.

Whether or not that confidence is justified is a matter of opinion. We must, however, bear in mind that there is a limit to the credit of any institution, even a large and wealthy nation such as the United States. An indication that we may be approaching that limit as these words are being written is the relatively high interest rate that we have to pay in order to attract the amount of foreign money that we need to finance the current budget deficits. Like a shaky business enterprise, we have to pay a substantial premium over what would be the normal rate. In any event, the present policy cannot be continued indefinitely. A "run on the bank" may or may not be imminent, but it is an ever-present threat.

This situation in which the United States now finds itself probably would not have developed if the nation had not become the world's banker. In that case the United States would have a fairly well defined credit limit like that of any other nation. But the accumulation of U.S. obligations by foreign nations and individuals as financial reserves has greatly enlarged the amount of U.S. debt that can be absorbed without adverse reactions on the nation's credit. Furthermore, because of the use of U.S. currency as an international standard, the exchange value of this currency is affected by a number of factors other than the true value in terms of goods that determines the exchange value of other currencies. One such factor is the existence of a speculative element in the market evaluation of U.S. currency. An unstable world financial situation, for example, tends to favor investment in the United States. The U.S. interest rate, and estimates of its probable trend, also have a significant effect. And since a large part of the financial reserves of most foreign nations is maintained in the form of U.S. currency, these nations have a vested interest in the stability of the dollar. Their central banks therefore frequently intervene in the currency markets by purchasing or selling dollars to prevent undesired changes in the exchange rates.

This special position in world finance has the effect of exempting the United States from some of the restraints that would otherwise limit the extent of the kind of actions that cause trouble. Unfortunately

our nation has been unable to exercise the kind of self-discipline that would take the place of these external restraints. As a consequence, we have succumbed to the financial ailment that is afflicting a large and growing number of the nations of the world, particularly the so-called "underdeveloped" countries – the borrowing disease. Within the last decade the United States has borrowed from foreign sources in quantities unprecedented in financial history, solely for the purpose of meeting government deficits; that is, to enable financing government expenditures without having to ask the taxpayers to pay for them. We are raising the money to meet today's expenses by mortgaging the earnings of future generations.

In addition to making it relatively easy to borrow from foreigners, the international use of U.S. currency has had the effect of concealing a substantial segment of the national debt. The debt totals as stated by government agencies and other compilers of economic statistics include only the interest-bearing portion of the debt. But large amounts of U.S. currency are being held by foreign governments and individuals as financial reserves. These billions of dollars are debts of the United States in exactly the same sense as our government bonds, and they constitute an important part of the debt total.

Ironically, the financial policy that the United States has been following in recent years is exactly the same as the policies of many nations, particularly in Africa and Latin America, which the financial experts of our government criticize so strongly. The only real difference is that these nations have realistic credit limits, based on the productivity of their economies, and most of them have reached their limits, while our position as the world banker prevents general recognition of the extent to which we are living on credit.

Strangely enough, adoption of this policy of reckless borrowing was the work of some of the most conservative elements of American society. After the theory that we can spend ourselves into prosperity derived from some of Keynes' ideas was generally recognized as having failed in practice, the pendulum swung back in the other direction, and the ultra-conservatives embraced the idea that the royal road to prosperity was the reduction of government expenditures. This, in itself, is quite harmless, so far as the general

operation of the economy is concerned, but unfortunately it was coupled with the belief that the government could be starved into economy by reducing taxes.

Of course, some justification had to be offered for abandoning what had long been regarded, in conservative thinking, as fiscal responsibility, and this was provided by a new (or at least rejuvenated) theory known as "supply side economics," which was receiving considerable public attention at the time. According to the proponents of this theory, taxes beyond a certain level bring in less, rather than more, revenue to the government, because of their depressing effect on the volume of business activity. Most economists rejected this theory from the beginning, and experience with its application has disillusioned many of the individuals who originally favored it, so it has relatively little active support at this time. However, the underlying premise of the theory, the "supply side" view that taxes are a burden on the economy, has been brought up in other connections, and some comments on its status are therefore in order.

Identification of the true cause of unemployment in *The Road to Full Employment* makes it evident that, under existing conditions, higher business taxes do have some adverse effect on employment. But the theoretical development also shows that this loss of employment can be avoided by relatively simple means. It also demonstrates that taxes on individuals do not have any direct effect on employment. Their impact on business activity in general depends on what the government does with the tax revenues.

In this connection, it should be kept in mind that the government is not a separate entity with objectives of its own; it is an agent of the citizens of the nation. Its expenditures are made with funds collected from those citizens, and are made for the benefit (presumably at least) of those citizens. The effect *on the economy* is therefore exactly the same as if the money had been spent for similar products by the citizens themselves. The effect *on the individuals* is different, simply because these individuals, if left to their own inclinations, would buy different products, items on which they place a higher value.

It follows that the reduction of taxes on individuals, the largest component of the total tax reduction made for implementation of

the supply side theories, had no stimulating effect on business, except insofar as the government financed the resulting deficit by inflationary borrowing or printing money. The policy that was actually followed was to minimize the use of new money and finance the large deficits by borrowing from foreign sources (selling credit goods, in the terms used in the theoretical discussion in Chapter 15). This avoided the inflation that otherwise would have produced some of the business expansion that the supply side economists were counting upon. It also enabled the national Administration to claim credit for controlling inflation, although in reality, all that had been done was to postpone it.

If past experience is a reliable guide in this instance, supply side economics will continue to have the support of some economists. Economic theories come and go in the manner of fashions in clothing, but a theory that once gains a measure of acceptance is seldom completely abandoned. However, the legacy that has been left by the supply side experiment, the huge addition to the national debt and the continuing budget deficits that are adding to it, will probably preclude any repetition in the foreseeable future. The present concern is with the question as to how to extricate ourselves from the quagmire of debt, an undertaking in which we are handicapped by the fact that we have never, as a nation, arrived at a general policy with respect to living on credit.

In any event, it is now clear that financial policies that cause the value of the dollar in foreign markets to diverge substantially from its true value have damaging effects on many segments of the domestic economy, as noted in Chapter 16. It is thus evident that we need some kind of controls over our international dealings that will accomplish the same results as the restraints that are automatically applied to all other countries by the currency exchange rates.

Furthermore, it is time for the United States to give some consideration to the effect of U.S. economic policies on the rest of the world. We have assumed a position of leadership in political and economic affairs, at least among the most economically advanced nations, and we should now recognize that this position carries with it some responsibilities.

The tie-in between the U.S. and world currencies that has resulted from the international use of U.S. currency has generated a new set of economic problems that have been gradually increasing in severity. The root of these problems is that, as matters now stand, U.S. actions taken for purely domestic reasons have repercussions throughout the world economies. As a well-known aphorism puts is, "When the United States catches a cold, the rest of the world has pneumonia." The sheer size of the U.S. economy has something to do with this, of course, but the reliance of the international community on U. S. currency causes the U. S. actions to have results around the world that are not taken into consideration when decisions are made as to U.S. policies.

This brings up the question concerning our relations with the rest of the international community. It would seem that the mere fact that we have accepted the kind of a position in the world that makes it possible for us to play a major part in the affairs of other nations imposes on us an obligation to avoid doing harm to the others by our policies. But we have not, thus far, recognized that obligation. For instance, the high interest the United States has had to offer in order to attract enough foreign money to finance its deficits has drained out of those countries the capital that they need to improve their productive facilities and to meet the requirements of the less affluent nations. Essentially, what has happened is that savings which should have been invested in productive applications in foreign countries have been diverted to financing additional consumption in the United States.

A close competitor of the huge budget deficit for the dubious distinction of being the domestic economic policy with the most destructive effect on international economic relations is the Federal Reserve System's reliance on an anti-business policy as the primary means of controlling inflation. As noted in the earlier pages, the currently prevailing economic opinion is that there is a "trade-off" between inflation and unemployment, and that the only way to correct an inflationary situation is to institute a "tight credit" policy that will reduce business activity and employment. It must be conceded that this policy, if it is carried out with sufficient firmness, is capable of achieving its objective. The slowdown of business

activity produces the conditions described in Chapter 14 which lead to a downswing of the business cycle, thereby eliminating, or at least reducing, money inflation. At the same time, the increased amount of unemployment dampens the pressure for wage increases, and thus reduces cost inflation.

But the reduction in business and employment, even in those cases where it does not reach recession proportions, is a very high price to pay for holding inflation down. For example, Heilbroner and Thurow report that the tight money policy in the United States from 1979 to 1982 "about doubled unemployment," while "bankruptcies soared to levels that had not been experienced since the Great Depression."[136] Meanwhile, the convulsions in the American economy dislocated economic relations throughout the world.

Use of this costly and destructive method of dealing with the American inflation problem is based on two premises, (1) that it is the only effective means of controlling inflation, and (2) that its results justify its high cost. According to the findings of this work, neither of these assumptions is valid, but in any event, the foreign nations get no benefit at all to offset the damage that the American actions inflict on international financial and commercial relations. Measures taken to control inflation in the United States have no direct effect on inflation in other countries.

Cost inflation is a world-wide phenomenon of a continuing nature, because workers everywhere are striving to improve their standard of living, and since few of them realize that the average standard of living is totally dependent on the productivity of the economy, it appears to them that the road to a better life is via higher money wages, a belief that is reinforced by the fact that those workers who receive earlier and larger increases do benefit at the expense of the rest of the work force. Unless the economy of a nation has some built-in resistance to the pressure that the workers are exerting, the tendency of the respective governments is to follow policies that cause, or at least permit, continuing wage increases, which are promptly followed by the inevitable price increases, leading to further demands for higher wages, and so on—the "wage-price spiral," as it is called.

The rates of inflation vary widely, often reaching annual levels of over 100 percent in some countries. As pointed out in Chapter 13, cost inflation is a balanced process, and does not change the relation of production price to market price. It therefore has no direct adverse effect on the general operation of the economy, and when arrangements are made to soften the impact of the indirect effects the economic life of the community is able to continue in somewhere near a normal manner. This is another of the aspects of inflation that the economists have found it hard to explain. "The surprising fact, indeed," say Samuelson and Nordhaus, "is that economies with 200 percent annual inflation manage to perform so well."[137]

The variations in the exchange rates take care of the differences in the amount of inflation in the different countries. The value of the currency of a nation that is experiencing a high rate of inflation falls relative to that of a nation with a lower inflation rate. Thus inflation in these countries does not necessarily create inequities in economic relations between nations. What the prevailing American anti-inflation policies are doing internationally is subjecting foreign nations to a substantial part of the costs of economic actions that are actually detrimental to them, rather than beneficial.

The effects of our domestic economic policies on the rest of the world that have been discussed in the foregoing pages raise some questions about the ethics of international relations that are beyond the scope of this work. It is appropriate to point out, however, that the existing mismatch between costs and benefits cannot continue indefinitely. Unless the United States institutes some changes to reduce the detrimental effects of the prevailing policies, the international community will undoubtedly replace the dollar sooner or later with some other internationally accepted currency.

## CHAPTER 18

# Wartime Economics

Most of us hope that history will record World War II as the last global armed conflict on this planet, but it is generally conceded that this hope is still far too nebulous to justify discontinuing physical preparation for meeting an attack, and presumably the same policy of preparedness should apply in the economic field. Furthermore, even if we never have the same kind of an emergency again, a study of the experiences and the mistakes in handling the economy in wartime, when many of the normal economic problems are encountered in greatly exaggerated forms, should provide us with some information that will be helpful in application to the less severe manifestations of the same problems in normal life.

In undertaking a brief survey of the effects of large-scale war on the national economy, the first point that should be noted is that no nation has ever been in the position of having anywhere near enough productive capacity in reserve to meet the requirements of a major war. In all cases it has been necessary to divert a very substantial part of the civilian productive capacity to military production in addition to whatever new capacity could be brought into being. We can get a general idea of the magnitude of this diversion during World War II by analyzing the employment statistics, inasmuch as the available evidence indicates that the average productive efficiency in civilian industries during the war period was not substantially different from that of the immediate pre-war years.

There are some gains in productivity under wartime conditions because most producers are operating at full capacity and without the necessity of catering to all of the preferences of the consumers, but these are offset by the deterioration in the quality of the labor available to the civilian industries, the handicaps due to the lack

of normal supplies of equipment and repair parts, and the very outstanding change in the attitude of the employees toward any pressure for efficiency. No accurate measurement of the relative productivities is available, but for an approximate value which will serve our present purposes, it should be satisfactory to assume a continuation of the pre-war level of productivity, in which case a comparison based on employment reflects the relative volumes of production.

In 1943, which was the peak year from the standpoint of the percentage of the total national product devoted to war purposes, the total labor force was approximately 60 million, and of this total the Commerce Department estimates that there were 28 million workers engaged on war activities, including war production.[138] From the same source we get an estimate that the spending for war purposes in 1943 was approximately 45 percent of the total national product, which agrees with the labor statistics within the margin of accuracy that can be attributed to the two estimates. Subtracting the 28 million workers from the total of 60 million, we find that there were about 32 million workers engaged on the production of civilian goods. Hours of work were somewhat above normal. No exact figures are available, as we cannot distinguish between war work and non-war work in the data at hand, and it is likely that the reported average working hours are heavily weighted by overtime work in the war production industries, but an estimate of ten percent above normal would not be very far out of line. On this basis, the civilian labor force, for purposes of comparison with pre-war figures, was the equivalent of about 35 million full-time workers.

In 1940, before the war, there were 45 million workers employed. The decrease in civilian employment from 1940 to 1943 was 22 percent. We therefore arrive at the conclusion that the production of civilian goods dropped more than 20 percent because of the diversion of effort to war production, in spite of all of the expedients that were employed to expand the labor force. But this does not tell the whole story. In addition to the 45 million workers employed in 1940, there were another 8 million who *should* have been employed, a relic of the Great Depression that still haunted the economy. If the war had broken out in a time of prosperity (as the next one, if there

is a next one, may very well do) the drop in civilian workers would have been from 53 million to an equivalent of 35 million workers, or 34 percent. We thus face the possibility that in the event of another major war we may have to cut the production of civilian goods as much as one third.

The significance of these figures is that there *must* be a reduction of the standard of living during a major war. A part of the production necessary to feed the war machine can be provided by discontinuing new capital additions and postponing maintenance and replacement of existing facilities. All this was done in World War II. Construction of new houses and manufacture of automobiles, home appliances, and the like, were kept to a bare minimum, while those items in these categories that were already in existence were visibly going down hill throughout the war years. But such expedients are not adequate to offset a 20 percent reduction in the civilian work force, to say nothing of a 35 percent reduction, if that becomes necessary. There must be a general lowering of civilian consumption. The nation's citizens have to go without the products that would have been produced by the efforts of the 10 to 18 million workers that are diverted to war production.

All this is entirely independent of the methods that are employed in financing the war effort. Today's wars can be fought only with the ammunition that is available today; no financial juggling can enable us to make any use today of the war material that will not be produced until tomorrow. *If our nation, or any other, enters into a major war, then during the war period the citizens of that nation, as a whole, must reduce their standard of living.* As the popular saying goes, "It cannot be guns *and* butter; it must be guns *or* butter."

A corollary to this principle is that if any economic group succeeds in maintaining or improving its standard of living during wartime, some other group or the public at large must carry an extra burden. The labor union which demands that its "take-home pay" keep pace with the cost of living is in effect demanding that its members be exempted from the necessity of contributing to the war effort, and that their share of the cost be assessed against someone else. Similarly, the owner of equity capital who is permitted to earn abnormally high profits during the war period because of an inflationary price rise

is thereby allowed to transfer his share of the war burden to other segments of the economy. The most serious indictment that can be made of the management of the U.S. economy during World War II is that it allowed some portions of the population to escape the war burden entirely, while others had to carry a double load.

To many of the favored individuals, particularly those engaged on urgent war production, where the pay scales were set high to facilitate the recruitment of labor, and where "cost plus" and other extremely liberal forms of compensation were the order of the day for the employers, the war period was a time of unparalleled prosperity, and there is a widespread tendency on the part of superficial observers to regard this era as one of *general* prosperity. "Why should it take a major war to lift us out of a depression and into prosperity?" we are often asked by those who share this viewpoint. But surely no one who attempts to look at the situation in its entirety can believe for a minute that the nation as a whole makes economic gains during a major war. Everyone knows full well that war is an extremely expensive undertaking. While we are thus engaged, we do not save, we do not prosper. The conflict not only swallows up all of our surplus production over and above living requirements, but also takes a heavy toll of our accumulated wealth. Even though the United States did not suffer the deliberate destruction by bombing and shelling that was the lot of those nations unfortunate enough to be located in the actual theaters of war, our material wealth decreased drastically.

The so-called "war prosperity" was simply an illusion created by government credit operations, and the discriminatory policies that deal out individual prosperity to some merely increase the cost that has to be met by others. Approximately one third of the "income" received in the later years of the war was nothing but hot air. It had no tangible basis, and it could not be used except when and as it was made good by levying upon the taxpayers for real values to replace the false. The "disposable" personal income in 1943, according to official financial statistics, was 134 billion dollars. But the increase in the national debt during the same period was 58 billion dollars,139 exclusive of the increase in outstanding currency, which is part of the debt, but not included in the statistics. Inasmuch as the income

recipients are also the debtors, their true income (aside from the currency transactions and any debt increase in local governmental units) was the difference between these two figures, or 76 billion dollars, not the 134 billion that the individual members of the public thought that they received.

Anyone can understand that the money which he personally borrows from the bank is not part of his income. That which the government borrows on his behalf has no different status. The additional 58 billion dollars of so-called "income" created through credit transactions was purely an illusion, and the addition of this amount to the national income statistics did not increase the ability of the people of the nation to buy goods either in 1943 or at any other time. The only thing that this fictitious, credit-created income did, or can, accomplish is to raise prices.

There is an unfortunate tendency, among economists and laymen alike, to look upon government bonds outstanding in the hands of the public as an asset to the national economy, an accumulation of savings which constitutes a fund of purchasing power available for buying the products of industry. This fallacy was very much in evidence in the forecasts of the economic trends that could be expected after the close of World War II. The National Association of Manufacturers,140 for instance, commented with satisfaction on the large amount of "unused" buying power in the form of government bonds that would be available for the purchase of goods after the war. Alvin Hansen took the same attitude with regard to government obligations in general. "The widespread ownership of the public debt, this vast reserve of liquid assets," he said, "constitutes a powerful line of defense against any serious recession."141 But government bonds were not, and are not, "unused buying power," nor are they a "reserve of liquid assets." On the contrary they are very much used buying power and they are not assets. In the postwar case cited by Hansen, the buying power which they represent had been used for airplanes, tanks, guns, ships, and all of the other paraphernalia needed to carry on modern warfare, and it could not be used again. All that was left was the promise of the government that in due course it would tax one segment of the public to return this money to another group.

It is nothing short of absurd to treat evidences of national debt as assets. The only assets we have, outside of the land itself, are the goods currently produced and the tangible wealth that has been accumulated out of past production. Government bonds are not wealth; they are merely claims against future production, and the more bonds we have outstanding the more claims there are against the same production. In order to satisfy those claims the workers of the future will have to give up some of the products of their labors and turn them over to the bondholders. There is no magic by which the debt can be settled in any other way. It can, of course, be repudiated, either totally, by a flat refusal to pay, or partially, by causing or permitting inflation of the price level. But if the debt is to be paid, the only way in which the bondholders can realize any value from the bonds, it can only be paid at the expense of the taxpayers and consumers. Regardless of what financial sleight-of-hand tricks are attempted, the day of reckoning can be postponed only so long as the creditors can be persuaded to hold pieces of paper instead of tangible assets. When the showdown comes and they insist on exercising their claims, the goods that they receive must come out of the products that would otherwise be shared by workers and suppliers of capital services. If this diversion is not done through taxes it will be done by inflation. It cannot be avoided.

A little reflection on the financial predicaments in which so many foreign governments now find themselves should be sufficient to demonstrate how ridiculous that viewpoint which regards government bonds as "liquid assets" actually is. These governments are not lacking in printing presses, and if they could create assets simply by putting those presses to work, there would soon be no problems. But all the printing that they can do, whether it be printing bonds or printing money, does not change the economic situation of these nations in the least. Their real income is still measured by their production – nothing else – and their problems result from the fact that this production does not keep pace with their aspirations.

The spending enthusiasts assure us that government debt is of no consequence; that we merely "owe it to ourselves," but this is loose and dangerous reasoning. It is true that where the debt is held domestically the net balance from the standpoint of the nation as a

whole is zero. But this means that we now have nothing, whereas before the "deficit spending" was undertaken we had something real. What has happened is that under cover of this specious doctrine the government has spent our real assets and has replaced them with pieces of paper.

Government borrowing differs greatly from dealings between individuals. When we borrow from each other the total amount of available money purchasing power is not altered in any way; that is, there is no reservoir transaction. All that has taken place is a transfer from one individual to another. No one has increased or decreased his assets by this process. The lender has parted with his money, but he now has some evidence of the loan to take its place, and the net assets shown on his balance sheet remain unchanged in amount. The borrower now has the money, but his books must indicate the debt as a liability.

The borrowing done by the government is not a balanced transaction of this kind. It is a one-sided arrangement in which the participation of the government conceals the true situation on the debit side of the ledger. The net position of the lender appears to be the same as in the case of private credit dealings. His cash on hand has decreased, but he has bonds to take the place of the money. However, as a taxpayer, he now owes a proportionate share, not only of the bonds that he holds but also all other bonds that the government has issued. Any family that has laid away $1000 in bonds believes that they have saved $1000 which will be available for buying goods when they wish to spend the money. But while these savings were being accomplished, the government, on behalf of its citizens, built up a debt of $2000 per capita. A family of four which has saved only $1000 has in reality gone $7000 into the red. The debt will probably be passed on to their heirs, but in the long run someone will have to pay it in one way or another.

The "savings" made during a period of heavy government borrowing are fictitious and they cannot be used unless someone gives up real values to make them good. Either these real values must be taken from the public through the process of taxation, or those who work and earn must share their earnings with the owners of the fictitious values through the process of money inflation. Government

borrowing provides the ideal vehicle for those who wish to spend the taxpayers' money without the victims realizing what is going on.

Another absurd idea that is widely accepted is that the shortages of goods such as those which are caused by the curtailment of production during a major war constitute a favorable economic factor when the war is over and productive facilities are again available for civilian goods. Much stress was laid on the "deferred demand" for goods that was built up during World War II, and in the strange upside down economic thinking of modern times this was looked upon as a favorable factor, one of the "major ingredients of prosperity," as the National Association of Manufacturers[140] characterized it. But the truth is that the deferred demand was simply a measure of the deterioration that had taken place in the material wealth of the nation. There was a deferred demand for automobiles only because our cars had worn out and we were too busy with war production to replace them. If this is an "ingredient of prosperity" then the atomic bombs are capable of administering prosperity in colossal doses. But such contentions are preposterous. We cannot dodge the fact that accumulated wealth always suffers a serious loss during a major war, and the "deferred demand" is a reflection of that loss, not an asset.

While real wealth decreases during the conflict, the government conceals the true situation by creating a fictitious wealth that the individual citizens are unable, for the time being, to distinguish from the real thing. Instead of the automobile which is now worn out and ready for the junk pile, Joe Doakes now possesses war bonds which to him represent the same amount of value, and with which he expects to be able to buy a new car when the proper time arrives. But the value that he attributes to the bonds is only an illusion, a bit of financial trickery, and in reality Doakes will have to pay for his car in taxes or by an inflationary decrease in his purchasing power. Not only was enough of this false wealth created to mask the loss in real wealth during the war, but it was manufactured in quantities sufficient to make high wage scales and extraordinary profits possible while the true economic position of the nation as a whole was growing steadily worse. The extent to which superficial observers were deceived by the financial sleight-of-hand performance is well illustrated in this statement by Stuart Chase:

> After Pearl Harbor money came rolling in by the tens of billions, enough of it not only to pay for the war but to keep the standard of living at par. Both guns and butter were financed.[142]

Perhaps such illusions can be maintained permanently in the minds of some individuals. Chase published these words in 1964, apparently unimpressed by the fact that his dollar was worth less than half of its 1941 value, or by the further fact that nearly 200 billion dollars of the money that "came rolling in" during the war was still hanging over the heads of the taxpayers in the form of outstanding government bonds. Whether all members of the general public realize it or not, the taxpayers ultimately have to pay *all* of the costs of a war. The holders of government bonds are not satisfied to hoard their bonds as the miser does his gold pieces; they all expect to exchange them for goods sooner or later. Then Joe Doakes must be taxed, either directly through the tax collector, or indirectly through inflation. Financial juggling may postpone the day of reckoning, but that day always arrives.

Clear-thinking observers realize that huge individual holdings of readily negotiable government bonds constitute a serious menace to the national economy, not a source of economic strength. Even before the end of World War II the analysts of the Department of Commerce were beginning to worry about the financial future. Here is their 1944 estimate of the situation:

> While the government encountered no major difficulties in raising money needed for the largest military program in history, it left the people with a tremendous fund of liquid assets. Part of this fund is sufficiently volatile to be a distinct inflationary threat at the moment. It may constitute a problem of major magnitude in the immediate postwar period.[143]

Now let us turn back to the principles developed in the earlier chapters, and see just why large bond and currency holdings are dangerous, why they "constitute a problem of major magnitude." On analysis of the market relations, it was found that the essential requirement for economic stability is a purchasing power equilibrium: a condition in which the purchasing power reaching the markets is the same as that created by current production. It was further determined that the factor which destroys this balance and causes economic disturbances is the presence of money and credit

reservoirs which absorb and release money purchasing power in varying quantities, so that the equilibrium between production and the markets that would otherwise exist is upset first in one direction and then in the other. Naturally, the farther these reservoirs depart from their normal levels the greater the potential for causing trouble. And the outstanding feature of the immediate post-war situation was that the money and credit reservoirs were filled to a level never before approached.

Except when it serves to counterbalance an actual deflationary shortage of money purchasing power, money released from the reservoirs can do no good. It cannot be used for additional purchases. There is no way of producing additional goods for sale without at the same time and by the same act producing more purchasing power. No matter how much we may expand production, the act of production creates all of the purchasing power that is needed to buy the goods that are produced. So the money released from the reservoirs can do nothing but raise prices. Instead of being a "reserve of liquid assets," as seen by the general public and by Keynesians like Alvin Hansen, the government bonds in the hands of individuals at the end of the war constituted an enormous load of debt. The financial juggling that misled the public – and many of the "experts" as well – into believing that the nation had accumulated a big backlog of assets merely made the adjustment to reality more difficult than it otherwise would have been.

One of the most distressing features of the post-World War II situation is that the policies which brought it about – the policies that led to a severe inflation, that conferred great prosperity on favored individuals while their share of the war burden was shifted to others, that left us with a post-war legacy of debt and other financial problems – were adopted deliberately, and with a reasonably complete knowledge of the consequences that would ensue. H. G. Moulton gives us this report:

> Shortly after the United States entered the war, a memorandum on methods of financing the war, subscribed to by a large number of professional economists, was submitted to the government. In brief, it was contended that stability of prices could be maintained if "proper" methods of financing were employed. It was held that if all the money

> required by the government were raised by taxes on income or from the sale of bonds to individuals who pay for them out of savings, there would be no increase in the supply of money as compared with the supply of goods, and hence no rise in the price level. On the other hand, to the extent that the Treasury borrowed the money required, either from the banks or from individuals who borrow in order to invest in government securities, the resulting increase in the supply of money would inevitably produce a general rise in prices.[144]

This statement is inaccurate in some respects. It attributes the inflationary price rise to an increase in the supply of money rather than to the true cause: an increase in the money purchasing power available for use in the markets, and it fails to recognize that cost inflation due to wage increases and higher business taxes would raise prices to some extent even if money inflation were avoided, but essentially it was a sound recommendation, and if it had been adopted the post-war inflation problems would have been much less serious. However, as Moulton says, "The policy pursued by the government was in fact quite the opposite."

It is quite understandable that a government which rests on a shaky base and is doubtful as to the degree of support it would receive from the people of the nation in case the true costs of war were openly revealed should resort to all manner of expedients to conceal the facts and to avoid facing unpleasant realities, even though it is evident that this will merely compound the problems in the long run. Perhaps there are those who are similarly uneasy about the willingness of the American public to stand behind an all-out military effort if they are told the truth about what it will cost, but the record certainly does not justify such doubts. Past experience indicates that they are willing to pay the bill if they concur in the objective.

It is true that, as J. M. Clark put it, there is a tendency toward "an uncompromising determination on the part of powerful groups that "whoever has to endure a shrunken real income, it won't be us,"[145] But such intransigent attitudes are primarily results of the policies that were adopted in fear of them. The worker who sees the extravagant manner in which the war spending is carried on, the apparently boundless profits of war-connected business enterprises and the general air of "war prosperity" can hardly be criticized if

he, too, wants his take-home pay maintained at a high level. But if the government is willing to face realities, and, instead of creating a false front by financial manipulation, carries out a sound and realistic economic policy that does not conceal the true conditions – one that makes it clear to all that wartime is a time of sacrifice, and will require sacrifices of everyone – there is good reason to believe that most members of the general public, including the industrial workers, would take up their respective burdens without demur.

The first requirement of a realistic wartime economic policy is sound finance. As pointed out earlier in the discussion, the general standard of living must drop when a major portion of a nation's productive facilities is diverted from the production of civilian goods to war production, and the straightforward way of handling this decrease that must take place in any event is by taxation. However, taxes are always unpopular, and since governments are prone to take the path of least resistance, the general tendency is to call upon other expedients as far as possible and to keep taxes unrealistically low. But this attempt to avoid facing the facts is the very thing that creates most of the wartime and post-war economic problems. The only sound policy is to set the taxes high enough to at least take care of that portion of the cost of the war that has to be met from income.

The other major source from which the sinews of war can be obtained is the utilization of tangible wealth already in existence, either directly, or indirectly by not replacing items worn out in service, thus freeing labor for war production. There are some valid arguments for handling this portion of the cost of the war by means of loans rather than taxes, but in order to keep on a sound economic basis any such borrowing should be done from individuals, not from the banking system. The objective of these policies of heavy taxation and non-inflationary borrowing is to reduce the consumers' disposable income by the same amount that the government is spending, thus avoiding money inflation. Some cost inflation may, and probably will occur, as there will undoubtedly be some upward readjustment of wages to divert labor into war production, but this should not introduce any serious problems.

Prevention of money inflation will automatically eliminate the "easy profit" situation in civilian business. Profits will remain at

normal levels, but they will remain normal only for those who keep their enterprises operating efficiently. They will not come without effort, as is the case when money inflation is under way. There will no doubt continue to be a great deal of waste and inefficiency in the direct war production industries, as it is hard to keep an eye on efficiency when the urgency of the needs is paramount. But, on the whole, this kind of a sound financial program will not only apportion the war burden more equitably, but will also contribute materially toward lightening that burden, since it will eliminate much of the inefficiency that inevitably results when there is no penalty for inefficient operation.

A sound and realistic program of financing the war effort will have the important additional advantage of avoiding public pressure for "price control" measures. If the price level stays constant in wartime, it is clear to the individual consumer that his inability to obtain all of the goods necessary to maintain his pre-war standard of living is due to the heavy taxation necessitated by the military requirements. He can see that he is merely carrying a share of the war burden. But when his take-home pay, the balance after payroll taxes and other deductions, is as large as ever, perhaps even larger than before the war, and he has been led to believe that the cost of the war is being met by the expansion of the nation's productive facilities – that the management of the war effort by the administration in power is so efficient that the economy can produce both guns and butter – then the inability of maintain his pre-war standard of living is, in his estimation, chargeable to inflated prices. This price rise is not anything that he associates with the conduct of the war. To him it is caused by the activities of speculators, profiteers, and the other popular whipping boys of the economic scene, and he wants something done about it. The usual government answer is some action toward "price control," often only a gesture; sometimes a sincere and well-intentioned effort.

But however praiseworthy the motives of the "controllers" may be, attempts to hold down the cost of living by price control are futile, and to a large degree aggravate the situation that they are intended to correct. As brought out in the previous discussion, price is an *effect* – mathematically it is the quotient obtained when we divide the

purchasing power entering the markets by the volume of goods – and direct control of the general price level is therefore mathematically impossible. Any attempt at such a control necessarily suffers the fate of all of man's attempts to accomplish the impossible.

*Some* prices can be controlled individually, to be sure, but whatever reductions are accomplished in the prices of these items are promptly counterbalanced by increases in the prices of uncontrolled items. The general level of prices is determined by the relation of the purchasing power entering the markets to the volume of goods produced for civilian use, and since the goods volume is essentially fixed in wartime, the only kind of an effective control that can be exercised over the general price level is one which operates through curtailment of the available purchasing power. Even if it were possible to establish prices for *all* goods, and administer such a complex control system, whatever results might be accomplished would not be due to the price control itself, but to the fact that the excess purchasing power above that required to buy the available goods at the established prices would be, in effect, frozen, as it would have no value for current buying.

Furthermore, price control is not merely a futile waste of time and effort; it actually operates in such a manner as to intensify the problem which brought it into being. The relative market prices of individual items are determined by supply and demand considerations, and if one of these prices shows a tendency to rise preferentially, this means that the demand for this item at the existing price is greater than the supply. If the price is permitted to rise, the higher price results in a decrease in the demand and generally increases the supply of the item, thus reestablishing equilibrium. Holding down the price by means of some kind of an arbitrary control accentuates the demand, which is already too high, and restricts the supply, which is already too low. "Surely no one needs a course in systematic economics," says Frank Knight, "to teach him that high prices stimulate production and reduce consumption, and vice versa. The obvious consequence is that any enforced price above the free-market level will create a "surplus" and one below it a "shortage," entailing waste and generating problems more complex that any the measure is supposed to solve."[146]

This is another place where the economists have allowed themselves to be governed by emotional reactions rather than by logical consideration of the facts. Samuelson, for example, calls attention to an instance in which the price of sugar was "controlled" at 7 cents per pound, where the market conditions were such that the price might otherwise have gone as high as 20 cents per pound. "This high price," he tells us, "would have represented a rather heavy "tax' on the poor who could least afford it, and it would only have added fuel to an inflationary spiral in the cost of living, with all sorts of inflationary reactions on workers' wage demands, and so forth."147

In analyzing this statement, let us first bear in mind that a high price for sugar does not deprive anyone of the sugar which he actually needs. As all the textbooks tell us, and as we know without being told, the most urgent wants are satisfied preferentially. An increase in the cost of *any* item therefore results in a reduction in the consumption of the *least essential* item in the family budget. A rise in the price of sugar thus has no more significance than an increase in the price of that least essential item. Higher prices for *any* component of a consumer's purchases reduce the standard of living that he is able to maintain. To the extent that sugar enters into non-essentials, such as candy, the consumption of sugar will be reduced irrespective of where the price rise takes place, but to the extent that sugar is regarded as essential to the diet, the reduction will take place in the consumption of other goods. In view of the severe general inflation that was taking place at the same time, the excessive concern about the possible rise in the price of sugar, a very minor item in the consumer's expenditures, is rather ridiculous. It is clearly an emotional reaction rather than a sober economic judgment. Whatever "tax" the sugar price increase may have imposed on the poor was simply a part of an immensely greater "tax" due to the general inflation of the price level by reason of government financial policy.

Furthermore, Samuelson, in common with many of his colleagues, apparently takes it for granted that an increase in the price of one commodity will exert an influence that will tend to cause other prices to rise – it will "add fuel to an inflationary spiral," as he puts it – whereas the fact is that any increase in the price of one commodity reduces the purchasing power available for buying other goods and

hence must cause a decrease in some other price or prices. Unless the total available purchasing power is increased in some manner, the average price *cannot* rise. Of course, under inflationary conditions, the available money purchasing power is being increased, and all prices are moving in the upward direction, but each separate increase absorbs a part of the excess purchasing power; it does not contribute toward further increases. The snowball effect visualized by Samuelson is non-existent. An increase in the price of sugar is an effect, not a cause. When the government draws large quantities of money from the reservoirs and pours it into the purchasing power stream going to the markets, the average price must go up no matter how effectively the prices of sugar and other special items are controlled.

Any rise in the price of an individual item that exceeds the inflationary rise in the general price level is due to a lack of equilibrium between the supply and demand for that item. If the price is arbitrarily fixed at a point below the equilibrium level, this is a bargain price for the consumer, and it increases the already excessive demand, while the already inadequate supply is further reduced, since producers are, in effect, penalized for producing controlled, rather than uncontrolled items.

As an example of what this leads to, the price of men's standard white shirts was controlled during World War II, whereas non-standard shirts, such as sport shirts, were partially or wholly exempt from control. The result could easily have been foreseen by anyone who took the trouble to analyze the situation. The manufacturers made little or no profit on the production of standard shirts, and therefore held the production to a minimum. During much of the war period they were almost impossible to obtain in the ordinary course of business, and those who wanted shirts had to buy fancy sport shirts, which were available in practically unlimited quantities at much higher prices. The net result was that the consumer, for whose benefit the controls were ostensibly imposed, not only paid a very high price for his shirts, but had to accept something that he did not want. This is not an unusual case; it is the normal way in which price control operates. The controls *produce* shortages, and the consumers are then forced to pay high prices for unsatisfactory substitutes.

Samuelson makes a comment which reveals some of the thinking that lies behind the seemingly inexplicable advocacy of price control by so many of the economists: the very group who ought to be most aware of its futility. Following his discussion of the sugar illustration and related items, he tells us, "the breakdown of the price mechanism during war gives us a new understanding of its remarkable efficiency in normal times."[148] It is not entirely clear whether it is the abnormal rise in the price of sugar and other scarce commodities that he calls a "breakdown," or whether it is the general rise in the price level, but in either case he is accusing the price mechanism of breaking down when, in fact, it is doing exactly what it is supposed to do, and what should be done in the best interests of the economy.

When the government is pumping large amounts of credit money into the markets, as it did in World War II, prices *must* rise enough to absorb the additional money purchasing power. The function of the price mechanism is to cause the necessary price increase to take place and to allocate it among the various goods in accordance with the individual supply and demand situations. The mechanism simply responds automatically to the actions which are taken with respect to the purchasing power flow; it is not a device for holding down the cost of living. In order to prevent a rise in the general price level, if this seems desirable, measures must be taken to draw off the excess money purchasing power and either liquidate it or immobilize it for the time being.

If Samuelson's diagnosis of a "breakdown" refers to the greater-than-average rise in the prices of certain commodities such as sugar, he is equally wrong in his conclusions, as the price mechanism is doing its job here; it is reducing the demand for these scarce items and increasing the supply. The price rise will force some consumers to reduce their use of these commodities, of course, but when productive facilities are diverted from civilian use to war purposes, the consumers *must* reduce their standard of living in one way or another. Someone must use less of the scarce items. The truth is that the price system does its job in wartime with the same "remarkable efficiency" as in times of peace It does what has to be done when the results are unwelcome, as well as when they are more to our

liking. Samuelson and his colleagues are blaming the price system for results that are due to government financial policies.

Under some circumstances control over the prices of certain individual items is justified as a means of preventing the producers or owners of commodities in short supply from taking undue advantage of the supply situation. Control over the prices of automobile tires during World War II, for example, was entirely in order. But it should be realized that the consumers were not benefited in any way by the fixing of tire prices. Whatever they saved in the cost of tires simply added to the amount of money purchasing power available for the purchase of the limited amount of other goods allocated to civilian use, and thus raised the prices of these other goods. Price control for the purpose of preventing excessive windfall gains is sound practice, but *price control for the purpose of holding down the cost of living is futile.*

The contention will no doubt be raised that the savings to the consumer by reason of controlled prices of sugar, tires, etc., will not *necessarily* be plowed back into the markets. But savings deposited in a bank are loaned to other individuals and spent. Most types of investment involve purchases in some market. Thus savings applied in either of these ways remain in the active purchasing power stream. It is true that the amount which is saved may be applied to the purchase of government bonds, in which case it is removed from the stream flowing to the markets. However, it should be remembered that the only excuse for price control is the existence of a period of economic stress, in which the general standard of living has to be reduced. Under the circumstances it is not likely that any more than a relatively small fraction of the decrease in outlay for the controlled commodities will be applied toward purchase of government securities. We cannot expect the "poor," to whom Samuelson refers, to buy war bonds with what they save on the cost of sugar. Even in the short run situation, therefore, price control has little effect in reducing the purchasing power flow.

In the long run, any "saving" that is made by purchase of government bonds, hoarding of money, or other input into the money and credit reservoirs, is entirely illusory, so far as the consuming public is concerned. Such "savings" never enable consumers as a whole to

buy any additional goods. The so-called saving by accumulation of government credit instruments merely postpones the price rise for a time. The only thing that these savings can do, when and if they are used, is to raise prices.

In general, wartime price control and rationing should be applied in conjunction, if they are used at all. If rationing of a commodity is required, control of the price of that commodity is practically essential, not because this does the consumer any good, as it does not, but to prevent some individuals from getting undeserved windfalls at the expense of producers of other goods. Conversely, if the supply situation is not serious enough to necessitate rationing there is no justification for price control. In fact, the necessity for rationing is all too often a *result* of scarcities caused by price controls

In the case of non-commodity items, such as rentals, the criterion should be whether or not the normal increase of supply in response to a higher demand is prevented by restrictions on new construction or other government actions, Where the control of prices is justified on this basis, however, the price should never be set *below* the amount which conforms to the general price level. For example, if the pre-war rental of a house was $300 per month, and the general price level increases 20 percent, the controlled rent should be raised to $360 per month.

Failure to keep pace with inflation is the most common mistake in the administration of rent control. It is, of course, due to the popular misconception that rent control helps to hold down the cost of living, and this futile attempt to evade the realities of wartime economics has some very unfortunate collateral effects. One is that the attempt to prevent the landlords from taking undue advantage of the housing shortage goes to the other extreme and does them a serious injustice. If their rentals are not allowed to share in the inflationary price rise, they are, in effect, being compelled to *reduce* their rents, as the true value of $300 in pre-war money is reduced to $250 by a 20 percent inflation. Furthermore, when the conflict finally comes to an end, the nation that has adopted rent control is faced with a dilemma. If the controls are lifted and rents suddenly increase to levels consistent with the inflated general average of prices, there will be an outcry from those who have to pay more. Consequently, there will be strong

political pressure for maintaining the controls and keeping the rents down. But if the controls are continued, building of new homes for rental purposes will be unprofitable, and the housing shortage that developed during the war will continue.

This was not a very difficult problem in the United States, where the controls during World War II were limited, and where such a large part of the new housing construction is for sale rather than for rent, but it created some serious situations in other countries – France, for instance. In the words of a European observer quoted by Samuelson and Nordhaus, "Nothing is as efficient in destroying a city as rent control – except for bombing."[149] The best way of handling the price situation during a war is to prevent any inflation from occurring, but if some rise in the price level is permitted to take place, as a by-product of the wartime wage policies perhaps, any prices that are controlled should be periodically adjusted to conform to the new general price level.

There is a rather widespread impression that price control *did* have an effect in holding down the cost of living during the two world wars, but this conclusion is based on a distorted view of the effect that the controlled prices exert on the prices of uncontrolled items. As indicated in the statements quoted in the discussion of the wartime price of sugar, it is widely believed that an increase in *some* prices tends to cause increases in *other* prices, and that controls over some prices therefore hold down the general price level. Such a viewpoint is clearly implied in Moulton's assertion that "the regulating agencies in due course performed a national service of first importance in pegging prices at substantially lower levels."144 But his own statistics show that during the 13 month period to which he refers, the price level of *uncontrolled* commodities rose 25 percent.

Furthermore, the inability of the price indexes, upon which the inflation statistics are based, to reflect the kind of indirect cost increases that are so common in wartime, or under other abnormal conditions, is notorious. "This [the B.L.S. Index] does not include or make sufficient allowance for various intangibles, such as forced trading up because of shortages or deterioration of low-priced lines,

general lowering of quality of the merchandise, and elimination of many of the conveniences and services connected with its distribution," say the analysts of the Department of Commerce. The conclusion of these analysts in 1945, at the end of World War II, was that prices for such things as food and clothing, items that account for over half of the consumer budget, were not much different from what they would have been without controls.[150]

The statistical evidence definitely corroborates the conclusion which we necessarily reach from a consideration of the flow of purchasing power; that is, holding down the prices of specific items simply raises the prices of other goods, while at the same time it introduces economic forces that work directly against the primary objective of the control program. We get nothing tangible in return for putting up with "the absenteeism, the unpenalized inefficiencies, the padded personnel in plants, the upgrading for pricing and downgrading for quality and service, the queues, the bottlenecks, the misdirection of resources, the armies of controllers and regulators and inspectors, associated with suppressed inflation."[148]

The only way in which prices can be held at the equilibrium level (the level established by production costs) is to prevent any excess of money purchasing power from reaching the markets. If price control measures accomplished anything at all toward holding down the general price level during the wars, which is very doubtful, particularly in view of all of the waste and inefficiency that they fostered, this could only have taken place indirectly by inducing consumers to spend less and invest the saving in war bonds or other government securities. Whether or not any such effect was actually generated is hard to determine, but in any event there are obviously more efficient and effective methods of accomplishing this diversion of purchasing power from the markets. Price control for the purpose of holding down the cost of living is a futile and costly economic mistake at any time, whether in war or in peace.

## CHAPTER 19

# Who Reaps the Harvest

Those who consider the subject matter of the preceding chapters thoughtfully can hardly fail to be impressed with the extent to which economic errors have been due to looking only at individual details rather than visualizing each situation in its entirety. As in so many other fields of human endeavor, we have been unable to see the forest because of the trees so close around us. The worker who realizes that it would be easier to make both ends meet if his wages were increased naturally jumps to the conclusion that *all* workers would be benefited by raising *all* wages, but we know both from theory and from a wealth of actual experience that no such benefit results. The theorist who observes that the increase in demand for a particular commodity that results from a decrease in price concludes that the demand for *all* goods could be increased by cutting *all* prices, but we have found that the total effective demand is limited by the amount of purchasing power created through production of goods, and cannot be increased by any kind of price juggling.

The collectivist finds that by getting on the government payroll he can gain an exemption from natural economic laws, and can pursue his visionary aims untroubled by the necessity of producing results commensurate with the cost. So he proposes to solve all economic problems in the same happy and carefree manner by bringing everything under government control. But we know that a higher authority than our national administration has decreed that man must first produce that which he wishes to consume, and we cannot all transfer our share of the burden of production to someone else. The economic patent medicine vendor sees that particular groups of individuals clear up all of their difficulties as if by magic if they can just get a subsidy from the government. So he proposes to eliminate all economic difficulties by subsidizing *everybody.* But the realities of economic life are not so easily evaded.

All of these misconceptions and many more of the same kind stem from the same cause: a failure to recognize that the situation as a whole is governed by limitations which the individual can escape if he is able to transfer his burdens to someone else. Before concluding this presentation of fundamental economic theory and beginning a discussion of the application of that theory to present-day problems, it will be advisable to review the facts with respect to another of these misconceptions, one that will come up in connection with several of the practical measures that will be considered. The subject in question, the division of the products of the economic system among the major claimants, is not only important from a technical standpoint, but also needs to be clearly understood for the sake of creating a better spirit of cooperation between two important segments of the economy, the suppliers of labor and the suppliers of the services of capital.

When we look at the conditions surrounding an individual enterprise, we find that a part of its income is used to meet miscellaneous expenses, and the balance is available for division between those who furnish the labor and those who supply the capital services. On the face of it, therefore, it would seem that there is a direct conflict of interest between the workers and the suppliers of capital. If the workers get a larger share of the total, those who supply the capital must necessarily get a smaller share, and vice versa.

This view of the situation does not necessarily imply that there is no common interest in which both can participate. On the contrary, it would suggest that any increase in total income is beneficial to both parties, regardless of the proportions in which the division is finally made. But it does definitely indicate that the rewards of the workers and the suppliers of capital will be materially affected by their relative economic and political strength. This is part of the basic philosophy of the labor unions. It is the contention of the unions and of the economists who adopt the view of organized labor, that labor has, on the whole, been "exploited" and has not received a fair share of the products of it efforts. By a combination of political and extra-legal coercive measures the unions have acquired a very substantial economic power, and they claim credit for most, if not all, of the improvement that has taken place in wage standards in the last few decades.

The fundamental economic principles set forth in the preceding pages make it clear that this viewpoint is completely erroneous. Exact analysis shows very definitely that for the system as a whole *capital costs are independent of wages,* and all efforts of the labor unions or anyone else to increase the general level of *real* wages at the expense of the suppliers of capital and to secure a larger proportion of the total value of production for the wage earners are futile. The division of the product between wages and capital costs is fixed in total by factors beyond the control of either the employers or the labor unions, and no amount of negotiating or forcible action by either party can alter this proportion.

Here, again, the trees have been preventing a clear view of the forest. The true situation is the same as in the case of a subsidy. If one individual gets a subsidy from the government, he prospers, of course. But it is clear that this gain is made at the expense of the rest of the community, and if we subsidize everyone there is no gain for anyone. Similarly, one individual or one group prospers by getting a wage increase, but any increase in wages *necessarily* causes an increase in the price level, regardless of what, if anything, business firms may try to do in the way of holding the line. Consequently, the consumers – the general public – pay the bill. A wage increase for everyone is like a subsidy for everyone; there is no gain to anyone.

This does not mean that the labor union efforts to secure higher wages are useless to the particular workers involved. On the contrary, the economic status of each member of society is as much a matter of relative advantage within the group as it is of the true level of prosperity. In the continual ebb and flow of economic life it is necessary for everyone to maintain a jealous watch on his relative standing in order that he may not lose the benefit of a rise in the general standard of living by a lowering of his relative position. Labor unions can improve the wage position of their members by extracting concessions from the employers which are ultimately reflected in the prices paid by consumers in general. However, the contention of the unions that they have increased the general level of wages by forcing employers to pay a more equitable proportion of the total national income in wages is one hundred percent wrong. The general level of wages (including salaries, professional earnings,

wages of the self-employed, etc.) cannot be altered by this internal struggle for advantage. The increases that have taken place in the *general* level of real wages have been due entirely to increased productivity. If union labor improves its *relative* position it does so at the expense of other groups of workers. The average "wages" of the suppliers of capital services have not been, and cannot be, affected by any arbitrary change in money wages.

The economic profession has never distinguished itself by its handling of the theory of wages. The earlier economists held to the viewpoint that wages would tend to become stabilized at a bare subsistence level. This is the doctrine of Ricardo, Malthus, and Marx, and it has a close affinity to the present-day labor union attitude. Unquestionably, the great majority of the workers believe that if all legal and extra-legal restraints were removed, employers would drive wages down to the lowest possible point – the subsistence level – in order to secure maximum profits. Modern economic thought has centered largely on the "marginal productivity" theory, which, in essence, explains the wage level as being established by the productivity of the marginal worker, the last worker the employer can afford to hire before reaching the point of unprofitability. As J. R. Hicks explains, "The theory of the determination of wages in a free market is simply a special case of the general theory of value. Wages are the price of labour; and thus, in the absence of control, they are determined like all prices, by supply and demand."[151]

But those who have attempted to make a practical application of this theory have found that the situation is not as simple as Hicks would have us believe. In order to make a supply and demand theory of wages workable some additional assumptions must be made, and great difficulty has been experienced in formulating any plausible hypotheses. Dale Yoder tells us that "many assumptions (about wages) are so far-fetched, so distant from reality, the the usefulness and applicability of available theory are drastically limited," and he sums up the existing situation in these words, "While there is no lack of hypotheses that seek to explain how wages are determined, evidence supporting such hypotheses – or contradicting them – is meager."[152]

The fundamental fallacy in all present-day wage theories is that they assign the dominating role in the establishment of wage scales

to the employer. In the "subsistence" theories the employer drives wages down as far as the restraints imposed upon him will permit. The leeway for discretionary action is somewhat curtailed in the marginal productivity theory, but it still sees the employer as having the whip hand over the wage situation, except to the extent that his prerogatives are forcibly limited. Here again the theorists have fallen into the error of assuming that the conditions which govern the part also apply to the whole. It can easily be demonstrated, both theoretically and statistically, that the employers have *no control at all* over the general level of real wages, in spite of the unquestioned ability of an individual employer to take a hand in the establishment of money wages in his own industry. This is exactly the same situation as that which prevails with respect to prices. Individual producers can modify their own sales prices to a certain limited extent, but, as was shown in Chapter 10, the general price level is determined by factors that are entirely beyond their reach.

Before we dig into the basic principles to see *why* the employers have no control over the general wage level, let us first take a look at what has actually happened with respect to the division of the products of our economic efforts. In this case, as is true in general, we do not have to rely on abstract theory alone in reaching our conclusions. There are ample facts available for testing all theories. Everyone knows that production has increased tremendously since the advent of the Power Age. In order to check theory against actual experience, let us see what gain each of the two claimants, the worker and the supplier of capital, has made from this great increase in the output of the economic machine. According to the subsistence theory the bulk of the gain must have accrued to the employers; that is, to the owners of the individual business enterprises. On the marginal productivity basis we should expect to find a more equal division, but the suppliers of capital should still have the advantage, since the initiative, according to the theory, rests with the employer.

Appraisal of the gains made by labor is a simple matter. All the worker wants to know is how he fares with respect to real wages: how much his buying power has been increased. On this point there is no room for misunderstanding or differences of opinion; the gain in the last hundred years or so has been enormous. Estimates

compiled by various analysts indicate that real wages have increased nearly two hundred percent in this period of time. But even this does not tell the whole story. These compilations do not take fully into account the very great improvement in quality of products that has taken place simultaneously. But whether the actual gain has been two hundred percent or three hundred percent is not material in the present connection. The important point is that the wages of labor have increased drastically as a result of the increase in productivity.

Now, how did the other claimant fare? The owner of capital also has only one standard by which he judges the adequacy of the "wages" that he obtains. This is the percentage rate of return on his investment. There is a tendency in economic circles to look at the percentage of the total product going to the suppliers of capital rather than at the rate of compensation received for each dollar of investment, but this amounts to nothing more than setting up an academic abstraction in place of a practical yardstick. No worker would listen with patience to an economist who tells him that a cut in real wages is of no consequence because more workers are now employed and consequently labor still gets the same percentage of the total output. It is equally unrealistic to expect an investor who finds the return on his capital dropping from six percent to four percent to be consoled by assurance from the economist that the total amount of capital in use has doubled, and hence the suppliers of capital, as a class, are better off than they were before. The only significant item for either worker of investor is the rate of payment he received for the services that he supplies.

We do not have enough detailed information to enable determining the rate of return from all types of capital investment directly, but we do have accurate and complete data on one specific item, the interest rate, and this gives us the answer for all kinds of capital, inasmuch as all uses for capital are directly competitive. Profits, for instance, cannot get very far out of line with interest rates, because the investor has the option of lending his money or buying equities, and any maladjustment between interest and profits is promptly corrected by a diversion of the new money flow from the less profitable to the more profitable field.

Theoretically, the average rate of profit should be somewhat higher than the interest rate because of the greater risk involved in equity investment, but it is doubtful whether this margin actually exists in practice. Many economists have concluded that the average businessman puts forth his proprietorial efforts for nothing; he gets no more return on his capital than he could get by lending his money to others. "The low level of corporate profitability is a puzzle to many observers,"[153] say Samuelson and Nordhaus. After analyzing the available statistics, C. Robinson reported in a book entitled *Understanding Profits,* that "in the American economy we have capital working for an average fee of... five to ten percent profit per dollar of investment," and he further states that "this modest fee... tends to remain remarkably constant over a long period of time."154 The true rate of profit in the economy as a whole is even lower, as the business statistics on which such conclusions are based are heavily weighted toward the larger and more prosperous concerns, and do not adequately reflect the situation in the multitude of small companies and individual proprietorships. Many of the owners of small enterprises actually earn little or no profit, and are in business mainly as a means of earning a living on their own terms.

So we can determine the trend of remuneration for the services of capital in general by examining the interest rate. But the stability of the interest rate throughout the last two hundred years, aside from short term fluctuations, has been one of the most consistent of all economic phenomena. All observers have noted this situation. It is apparent that the owner of capital gets no more return on his investment, no more "wages" for the services of his capital, than his predecessors did a hundred years ago. If there has been any trend at all it has been downward rather then upward. And there is no indication that the situation is changing. Samuelson and Nordhaus give us these reports:

> American corporations have earned on average no more than their cost of capital over the last few decades.[155]
>
> The real interest rate has been trendless over the last 85 years.[156]

Where does this leave all of the theories of wages which put the employer in the dominating position? The owner of capital, who, in his capacity as an employer, is supposed to have the upper hand in

wage determinations, even to the extent of lowering wages to mere subsistence levels as the Marxists and many others would have us believe, gets no gain at all out of the great increase in productivity, whereas the real wages of the allegedly "exploited" worker have multiplied manyfold. Furthermore, the advent of the labor unions and the greater amount of public attention given to labor problems have not changed this situation in the least degree. The worker was getting all of the benefit of increased productivity before the unions even cut their eye teeth. As expressed by Samuelson and Nordhaus:

> Once cyclical influences on labor's share are removed, we can see no appreciable impact of unionization on the level of real wages in the United States.[157]

Obviously something far beyond mere "bargaining" between employer and employees determines the real wage level. We cannot conceive of a bargaining process in which one of the participants never gets anything at all. The explanation is that *capital competes with capital, not with labor.* The price of capital is determined by the relative availability of capital and productive employment in which it can be used. Labor does not enter into this picture, except when exhaustion of the labor supply limits the further use of capital. We frequently meet the contention that capital and labor are competing for jobs, as employers have the option of using labor-saving devices in lieu of labor, and will use more or less mechanical equipment depending on the labor price. This is another of the many economic misconceptions that arise from an inability to realize that the number of potential jobs for labor is unlimited, and the use of mechanical equipment therefore changes only the kind of work available, not the amount.

The true facts will be obvious after we take the necessary steps to eliminate unemployment, but even in these days of imperfection, intensive use of capital is always correlated with high employment and high wages, not with low employment and low wages. When labor is fully utilized, the demand for capital is at a maximum, and wages get the benefit of the increased production. When production falls, both labor and capital lack employment. There is no sound basis for considering capital a competitor of labor; it is a tool of labor, and those who supply it receive a compensation based entirely on what

it is worth, as determined by competition of the most aggressive and unrestrained character.

The popular conception of market price as the fixed element out of which both labor and capital must draw their pay is entirely erroneous in application of the system as a whole. As was shown in Chapter 11, the normal market price is determined by production price, and any changes at the production end of the mechanism are promptly reflected in the goods market price. This normal market price, the price that would prevail in the absence of unbalancing forces arising from purchasing power reservoir transactions, is the sum of wages plus capital costs plus taxes. Capital costs are fixed by the competition of capital against capital. Taxes are fixed by those mysterious processes to which our legislators are addicted. Only wages have no external limitation. Consequently they take up the entire residue. Real wages are equal to the market value of the products of the economy as a whole less the fixed items of taxes and capital costs. No matter what the *money* wage may be, the price mechanism automatically adjusts the *real* wage to this unavoidable result.

Ever since this "residual claimant" theory of wages was originally formulated critics have argued that any element of cost can be considered the residue after all other charges have been satisfied, and hence wages are no more entitled to the residual status than any other cost element. Indeed, most economists accept the superficial viewpoint of the ordinary layman and consider profit as the residual share. "In most current analysis, reports Yoder, "economists are agreed that the only residual share is what is known as profit. No fixed rate of profits is imaginable, precisely because it is a possible residue. Profits may or may not appear."[158]

This is the same old story of the trees obscuring the view of the forest. Yoder's statements are correct only in application to the individual case; they are completely erroneous in application to the system as a whole. An *average* rate of profit that is fixed from the short term standpoint is imaginable. And it is much more than imaginable; it is an *inevitable result* of the way in which the economic system operates. If average profits fall below this fixed normal level, the supply of capital diminishes and its price (of which

profit is one form) consequently rises. If average profits rise above the normal level, the supply of equity capital increases, and its price consequently drops back. It is rather odd that a profession which is so proud of its supply and demand theories and is inclined to apply them freely even where they have no actual relevance, should be unable to see that this is a classic supply and demand situation.

The essential point here is that, regardless of how any individual firm may fare, taxes and capital costs (including profits) *as a whole* are independent of productivity. Taxes are determined by what the government spends, not by what the economy produces. For the reasons that have been stated, capital costs at corresponding stages of the business cycle are practically constant decade after decade. Only wages are free to increase or decrease in response to changes in productivity. The *money* wages may be resistant to change, but if they fail to reflect the productivity gains or losses, the *real* wages are automatically adjusted to the new conditions by the goods price mechanism.

The division of the fruits of production is similar to the distribution of the assets of an estate. As wills are ordinarily written, there are some specific bequests which are fixed in amount irrespective of the actual size of the estate. These are analogous to the fixed taxes and capital costs. The remainder of the estate, after deducting these fixed items goes to the residuary legatee. Similarly, the remainder of the products of the economy, after the fixed items are satisfied, goes to the workers, the residuary legatees of the economic system.

This explains why wages get all of the benefit of improvements in productive efficiency, as the statistics clearly prove that they do. Returns on capital are still limited to the level established by competition, a level that has no relation to productive efficiency, and therefore remains constant regardless of technological advances. As productivity improves, there is a constantly increasing residue that goes to the real owners of the economic machine, the workers. When we get down to the fundamentals, we find that it is the owner of capital, not the worker, whose remuneration is driven down to a "subsistence" level by remorseless competition. Because of the complexity of the modern economic organization, the owners of

capital and the managers of the productive enterprises utilizing that capital do not ordinarily realize that average profits cannot rise above the subsistence level, but they are well aware that they do not. A survey of the attitude of business people toward existing economic conditions reports that the "single biggest worry of business is the failure of profits to expand over the years"[159] Arthur F. Burns expressed the same point in this manner:

> Perhaps the most serious obstacle we face to a higher rate of economic growth is the persistent decline in the rate of profit during the past 10 to 12 years. Unless the rate of profit is increased, I fear that our country will not succeed in attaining the rate of growth that we would like to have and can have.[160]

But the business community will have to reconcile itself to the situation that now exists, and look elsewhere for growth stimulants, because a *"subsistence" level of profits is inherent in the economic system.*

There is actually nothing unusual or abnormal about the way in which the price of capital remains constant while the price of labor continually rises with every gain in productivity. It would, in reality, be highly abnormal if the situation were any different, as this seemingly inequitable division of the increment conforms exactly with the principles by which *all* prices are determined, the principles discussed in the earlier pages of this work. Price is governed by two limits. It cannot exceed value, else there would be no motive for a transaction. As a long term proposition, it cannot be less than the cost of production, or there would be no motive for undertaking production. Where the item is freely reproducible, the competition is on the selling side, and it drives the price down to the lower limit, the cost of production. Where the item is not freely reproducible, the competition is on the buying side, and it drives the price up to the upper limit, the value.

Capital is freely reproducible. Consequently, the determinant of the price of capital is the cost of production; that is, the cost of saving. The value of the services of capital (the amount that it contributes to production) has no bearing on this situation, except that it interposes a limit on the amount of capital that can be used at a given price. There is no demand for capital at all when this value is

below the lowest possible price: the cost of production. The process of saving which creates capital is governed by a comparison of the benefits derived from present consumption against those accruing from future consumption. An increase in productivity enters into both sides of this comparison, and it does not alter the ratio. This means that the cost of saving (on a percentage basis), and hence the cost of production of capital, are not directly affected by changes in productive efficiency. It is possible that long-continued increases in productivity may ultimately have an indirect effect, as saving should theoretically become more attractive when present wants are more adequately met, but this factor will operate toward reducing the wage of capital, not toward increasing it.

Labor, on the other hand, is not freely reproducible. It may seem odd to talk about a limited supply of labor when unemployment is a major problem. But the significant economic figures are the amount of capital and the amount of labor per capita, and on this basis the amount of labor available is strictly limited. The price of labor, like that of any other non-reproducible item, is therefore determined by the upper limit, its value, and it is equal to the total value of production less the fixed items of capital costs and taxes.

This explains why neither legislation nor forcible action can increase the real income level of workers in general. *Their income is already at the maximum level possible on the basis of the existing productive efficiency.* If any gain is made by one group, it can only be at the expense of other workers. Skilled labor may gain at the expense of unskilled labor, for example, or industrial labor as a whole may gain at the expense of the farmers, teachers, or government employees, but labor cannot gain at the expense of the suppliers of capital because capital costs are established independently of other factors, and are not affected by changes in wages or other components of cost. The general level of money wages can be increased, of course, but this accomplishes nothing. It merely pushes market prices up and leaves real buying power unchanged.

Some economists have argued that labor actually gains from increased money wages in spite of the higher prices that inevitably follow, as increasing the wage component of the market price

without altering the other price components results in a price rise somewhat less than the wage increase, leaving labor relatively better off.[161] This is an example of the kind of unrealistic economic reasoning that distresses those who must deal with facts and not with fancies. Certainly labor would gain by increasing the wage level and leaving capital costs and taxes unchanged, if this could be done, but even the slightest attempt to come down to earth and ascertain the facts would demonstrate that wage increases *necessarily* involve corresponding increases in the other cost elements. When prices go up government salaries have to be increased, and government purchases in the markets require larger expenditures. Taxes rise accordingly. Similarly, a larger amount of money capital is required to do the same amount of work, and since the *rate* of return on capital remains essentially constant, the total cost of capital services per unit of output increases.

It is true that there is a certain time lag in economic processes, and whenever a change is made in any component of the system someone usually gains a temporary advantage until the compensatory mechanisms have time to operate and restore the equilibrium. Theoretically it would be possible for labor to gain such a temporary advantage from an arbitrary increase in the general wage level during the period of adjustment, but in actual practice it has been observed that prices tend to respond very quickly to any upward influence, even to the extent of anticipating the wage increases in many instances. Thus there is no assurance that even this transitory gain would materialize.

Much of the present controversy over wage rates revolves around the question as to what is a "fair" division between the wages of labor and the earnings on capital, and we find books with titles such as *The Just Wage*[162] and *Equitable Payment*[163] which are devoted to exploring the issue as to what the wage "should be." Some years ago George Meany stated the labor union position in these words, "The unions want a fair share for the workers who make their contributions to the economic system, and... unions are going to continue to seek a fair share through every legal method, including strikes when necessary."[164] Even though this statement implies that the workers are not getting a "fair share," the use of such an expression tacitly

recognizes that the suppliers of capital are entitled to participate in the gains. As expressed by Wilhelm Röpke, "Is it not right that productivity increases should also benefit the firm... by higher profits in proportion to its current and future capital?"[165]

From the standpoint of equity, this doctrine of a fair division seems very reasonable, but here again we are confronted with the fact that economics is governed by cold, hard realities, not by sentiment. Regardless of how reasonable it may be for the owners of business enterprises to participate in the fruits of increased production to which they have contributed very materially, they cannot do so under any competitive economic system operating on an individual enterprise basis. These systems do not give workers in general a "fair share" of the benefits of increased productivity; they give these workers *all* of the benefits.

The "wage" of capital, on the other hand, is fixed in total by considerations which are independent of productivity. The profits of an individual business enterprise at any particular stage of the business cycle are determined by *relative* productive efficiency, not by any absolute standard. The enterprise that outstrips its competitors earns good profits even if the general level of productivity in that industry is miserably low; the one that lags behind in a close race earns little or nothing even though it may be very efficient when judged by normal standards. Whether this is equitable or inequitable is beside the point; this is the way a competitive system operates.

Because business profits are governed by competition, any change in costs that applies equally to all competitors has no effect on profits. Higher wages or higher taxes simply result in higher prices, and if all competitors are subject to the same conditions each is able to recapture his additional costs out of the higher price structure. If the additional costs fall more heavily on one firm, the competitive position of this firm is weakened, and some of its profits are transferred to others. It may even be forced out of business entirely.

To sum up the situation, we find that the relative position of the worker and the owner of capital with respect to the economic system as a whole is just the reverse of their positions in the individual enterprise. In the business organization the owner pays all of the wages and other

costs of production, and retains the residue as his compensation for the use of the equity capital. But while individual profits are variable, average profits are fixed by economic forces beyond the control of either the workers or the employers. Consequently it is the worker who occupies the status of "owner" of the economy as a whole, and who receives the residue over and above the fixed expenses. In effect, the workers pay the capital costs and the taxes and retain all of the residue as compensation for their work.

This finding that the wage earner receives the entire residue does not mean that the economists' marginal utility approach to the wage question must be abandoned. The "marginal" concept has a bearing on the wage situation, but it does not play the role that economic theory has assigned to it. Its real function is very similar to that of supply and demand in the determination of the market price. As pointed out in Chapter 10, what supply and demand actually do is to determine the *relative* prices of different goods in monetary terms. The average level of real prices then depends on the value of money, which is determined by factors that are prior to, and independent of, the market transactions. Similarly, a determination of marginal wages gives us only relative values. The total amount of real wages is the value of the products less the fixed costs, as indicated in the preceding pages. That total is divided in proportion to the relative wage levels as determined by marginal considerations.

Both the marginal theory of wage determination and the earlier "subsistence" theory, which contends that wages are eventually driven down to a bare subsistence level by competition from the unemployed, lead to the conclusion that there is a "surplus value"—a difference between the true value of the workers' productive efforts and the wages paid. The contention of the theorists is that the system diverts this "surplus" from the workers, to whom it rightfully belongs, to the owners of capital. This is the basis for Karl Marx' claim that the workers are "exploited" under what is mistakenly called the "capitalistic" economic system.

Economic experience has never supported this assertion. Socialistic economies do not pay higher wages. On the contrary, their inability to reach the level of real earnings that prevails in the nations relying

on private enterprise is one of their most serious and embarrassing shortcomings. Now our analysis shows that the concept of a "surplus value" has no theoretical justification either.

The acceptance that socialistic economies have experienced in some countries – Sweden, for example – has not been due to efficient performance of the economies but to the general public approval of what has come to be known as the "welfare state." However, this is the result of a misunderstanding. As will be brought out in the concluding chapters of this work, the measures that are included in the welfare category are not peculiar to any economic system. They are features of the arrangements that are made for division of the proceeds of the economy, and they can be applied to the proceeds of *any* economic system, including those that are customarily called "capitalistic."

The wage principles developed in the preceding pages, like many of those stated earlier, may seem incredible to those who have been thinking along much different lines, but they can easily be verified statistically. We may express them as follows:

> **PRINCIPLE XVI: The cost of the services of capital is fixed by competitive conditions, independently of productivity.**
>
> **PRINCIPLE XVII: Average real wages are determined by productivity, and are equal to total production per worker less the items of cost that are determined independently of productivity: taxes and capital costs.**

These principles were recognized, at least in a general way, in the early days of economics in America, when scientists such as General Francis A. Walker and Simon Newcomb were attempting to apply scientific methods and practices to the study of economics. General Walker is commonly credited with originating the "residual claimant" theory of wages, and it is significant that his systematic, unbiased scientific analysis of the problem in the middle of the 19th century arrived at the same conclusion as the systematic, unbiased scientific analysis carried out in this present work in the middle of the 20th century. But the triumph of the sociological approach to economics over the scientific approach halted the progress in the scientific direction.

The sociologically oriented economists will not accept Principle XVII because it interferes with what they want to do, and unlike

scientists, they are unwilling to admit that they are limited by the realities. The vast gulf between these two professional points of view is well illustrated by Dale Yoder's comment, in his textbook on labor economics, that the residual claimant explanation of wage determination was "irritating to those who sought to raise levels of wages."[166] Can anyone visualize scientists being "irritated" by the law of Conservation of Energy and refusing to accept it because it exposes the futility of the many attempts that are being made to create energy out of nothing: a dream that was once as dear to the hearts of many people as the raising of wages at the expense of the employers is to their present-day counterparts? These crusaders for a "fair" wage refuse to accept the residual claimant theory, not because of any conflict with the known facts of experience, nor because they have a plausible alternative explanation, but simply because, in their opinion, this is not the way in which wages *ought* to be determined. As Yoder explains (with reference to all wage "laws" which assert that the compensation for labor is fixed by economic forces), "In the light of these laws, there was little anyone could do to improve the status of wage earners – unions gained only at the expense of other workers, wages could be raised in one industry only at the expense of all others, etc.[167]

But this is just exactly how matters stand. These is little that anyone can do to improve the status of wage earners in general by political action or coercion of employers. The only way to make any significant improvement in their economic status is to increase their output of goods by keeping them employed, providing them with more efficient tools and equipment, and devising more and better ways of increasing their productivity. Labor unions *do* gain higher wages only at the expense of other workers, wages *cannot* be raised in any one industry except at the expense of all others, and so on, just as Walker and the other early adherents of the residual claimant theory contended. The economists' refusal to recognize the facts because they do not like them does not change the situation in the least. All that it accomplishes is to confuse the issues and thus prevent the progress that could be made if economic decisions were made on the basis of sound and valid principles rather than on the strength of emotional arguments.

It is quite ironic that the economic profession, which has been so ready to embrace the many fallacies that are included among the economic ideas of J. M. Keynes, even such absurdities as his contention that we can enrich ourselves by doing useless work, has turned a deaf ear to his sound appraisal of the wage situation, an appraisal that is fully in accord with the findings of this work. Keynes' words, quoted earlier, are worth repeating: "the struggle about money-wages primarily affects the *distribution* of the aggregate real wage between different labour-groups, and not its average amount per unit of employment which depends... on a different set of forces."[96]

The rejection of the findings of Walker and his scientific contemporaries by the sociologically-oriented economists who have dominated the economic profession in later years has cost the nation dearly, but we can prevent further losses of this kind by adopting a policy of basing economic actions on solid facts and sound theory rather than on emotional grounds. When the economists, the governmental authorities, and the nation as a whole finally arrive at a realization that they must take economic laws and principles just as they are, whether they approve or disapprove of them, as they know they must do in the case of physical laws and principles, the door will be opened to the solution of most of our major economic problems.

## CHAPTER 20

# Economic Controls

As stated in Chapter 3, the aims of economic science are to determine how the American individual enterprise economic system operates, and how it can be manipulated to accomplish the economic objectives defined by the appropriate agencies of society. The preceding chapters have described the operation of the economy, as seen in the light of the information derived from a systematic analysis, and have identified the economic quantities that can theoretically be modified by external influences. In preparation for a discussion of the various practical ways of exercising control over the operation of the economy, this chapter will recapitulate the control points that have been identified, and will describe the nature of the controls that can be exercised at each of these points.

With the benefit of the analysis in the preceding chapters, we are now able to explain why, as the economists themselves admit in the statements quoted in the earlier pages, economic theory has not been able to point the way to a solution of the most important economic problems of our time. This analysis shows that the economists have not ascertained how the economic mechanism actually operates, and therefore have not been able to identify the points at which it *can* be effectively controlled. As a result, their efforts to remedy economic ills have consisted mainly of substituting arbitrary actions for certain features of the normal operation of the system. Some of these attempt to do the impossible (direct control of the price level, for example); others (such as "creation of new jobs") are promptly counterbalanced by the operation of natural forces; and still others (of which the disastrous policy of controlling inflation by choking business activity is the prime example), apply cures that are worse than the original disease.

The detailed study of the operation of the economic system in its true status as a continuous flow process clearly indicates that the

optimum production of values results if the mechanism is allowed to operate without interference. This is not an argument in favor of *laissez faire* economics. The economic system is not a self-sufficient mechanism. There are certain points at which decisions *must* be made and imposed on the system. There are other points at which arbitrary modifications *may* be made if the authorities in charge of the economy so desire. And both the operation of the system and the results that are obtained from it may be modified substantially by actions that are taken after the economic mechanism has completed its task, chiefly those taken in connection with the distribution of the products of economic activities.

Determination of the volume of production and employment (within the limits of the capacity of the economy) is purely a matter of decision by individuals or agencies, public or private as the case may be. These decisions may be influenced by economic actions of various kinds, and in some cases the effect of a particular influence is quite predictable, but there is no direct connection between any specific action, such as an action to "increase demand," and the effect on production.

The employment analysis in *The Road to Full Employment* demonstrated that actions taken to increase employment, as well as those that have an unintended effect on employment, exert their effect through the changes that they produce in an economic function that was called the "survival limit" in that work. In order to understand the nature of this limit, it should be realized that the American economic system, and the others that operate on a private enterprise basis, are *competitive* systems. The criterion of performance in such a system is *profitability,* which measures the results of the operations of the individual firms or production units in terms of the values produced relative to the amounts of labor and capital services utilized. Within a certain range defined by the average production costs, the effective values depend on the competitive situation, not on the productivity of the individual enterprise relative to any absolute standard.

This means that in order to avoid an operating loss, which few firms can stand for more than a limited period of time, the productivity of each individual enterprise must exceed a certain percentage of the

average productivity of the economy as a whole. That percentage is the survival limit. Firms whose productivity drops below the limit cannot long survive. To illustrate the effect of the limit, let us consider what would happen if we set it at 100 percent of the average; that is, we required each enterprise to exceed the average productivity in order to be allowed to continue operation. Obviously, enough of these firms would have to go out of business to account for half of the employment. Of course, we would try to replace the failures with new and more efficient enterprises. But this would not change the situation. Since the standard is an average, no matter how efficient the new firms may be, half of the new total would still find themselves below the survival limit.

What has not been appreciated heretofore, at least in connection with the employment situation, is that in a competitive economy this same principle applies wherever the survival limit is set. A limit below 100 percent of the average results in a lower percentage of business failures, and consequently a lower rate of unemployment, but it does not eliminate the adverse effect. If the survival limit remains at the level that produces five percent unemployment under the conditions currently prevailing, there will continue to be five percent unemployment indefinitely, regardless of how many new enterprises begin operation, and how many "new jobs" are created.

This is one of many places where economic quantities are in a state of equilibrium, and are therefore subject to the natural laws governing equilibrium systems, particularly Le Chatelier's Principle, which states that disturbing an equilibrium in one direction or the other generates forces that tend to restore the original condition. In the case cited in the preceding paragraph, stimulation of business activity by means of subsidies or similar devices may have resulted in addition of x new jobs. But the operation of Le Chatelier's Principle will restore the equilibrium condition by causing failures or curtailments that eliminate x previously existing jobs. Or, if *all* unemployment were eliminated by withdrawing the currently unemployed from the ranks of those seeking work, the operation of that principle would insure that enough firms would cease, or curtail, operation to bring the unemployment back up to the equilibrium rate (five percent in the example discussed).

As brought out in *The Road to Full Employment,* where these issues were discussed in detail, what this means is that a quasi-permanent increase in employment can be achieved only by some measure or measures that lower the survival limit. The position of that limit depends on the ratio of the irreducible components of production cost to the total cost. Taxes, other than those on income, are fixed, as is interest. Labor is generally the largest item in the production cost, and under present conditions it is very difficult to reduce the wage and salary rates. The reductions that are made in the outlay for labor are therefore usually limited to what can be done in the way of reducing the working force. Aside from this limited reduction in the labor cost, and a few miscellaneous savings, the only cost items that can be eliminated to meet a financial emergency are profits and income taxes. In recent years the wage structure has become more rigid, and new taxes (Social Security, etc.) have been added. As a result, the survival limit has been increasing.

The effect on employment has been tragic. As late as 1960, the report of the President's Commission on National Goals was able to take four percent as the "normal" unemployment rate. "In practice," it asserted, "we must seek to keep unemployment consistently below 4 percent of the labor force."[168] Twenty-five years later, Samuelson and Nordhaus estimate the "natural rate of unemployment" at 6 percent.[169] The difference is an indication of the extent to which the employment situation has deteriorated in the intervening quarter of a century.

The dependence of the rate of unemployment on the survival limit explains how inflation affects the employment situation. As brought out in the previous discussion, cost inflation due to increases in money wages has no effect on the general operation of the economic system, and therefore no effect on the survival limit. These increases in money wages do not increase real wages. But if the cost inflation is due to higher business taxes, it is one of the factors which, along with decreased flexibility of the wage structure, tends to increase the "normal" level of the survival limit and the corresponding level of unemployment, the level which is now estimated at about 6 percent. Money inflation has a greater and more direct effect. As we saw in Chapter 12, it increases the profitability of productive operations.

The higher profits reduce the ratio of irreducible costs to total costs (the survival limit). Employment consequently increases.

During one period following World War II, economists noted a fairly constant relation between the amount of inflation and the unemployment rate, which received widespread attention under the name "Phillips Curve." Belief in the existence of a *stable* relation of this nature has dwindled in more recent years, particularly since the coexistence of high inflation and high unemployment has become so common that the term "stagflation" has been coined to describe it. But most of the economic profession still holds to the belief that there is a "trade-off" between inflation and unemployment. so that if we want to cure, or ameliorate, one of these economic ills, we must accept at least some of the other.

The finding that there is no *direct* connection between inflation and employment changes this picture drastically, Most cost inflation has no effect at all on employment, since the usual cause of that form of inflation, arbitrary wage increases, changes only the money labels, not the real economic quantities. Money inflation does alter the survival limit, and through it the rate of unemployment. But the present study has revealed that inflation is only one of many influences that have the same effect. Full employment without inflation is therefore not an impossible goal, as most economists now contend, but can be reached by using some selection from among the various non-inflationary means of reducing the survival limit. A discussion of the measures that are available for this purpose is included in *The Road to Full Employment.*

Another point at which a decision must be made, and imposed on the economic system, is the establishment of the money wage level, and, as a consequence, the market price level. There is no way by which the economic system itself can "set the thermostat." As brought out earlier, what this setting accomplishes is to fix the relation between money and goods at some arbitrary level.

In addition to these points at which outside control must be exercised, there are other points where it is optional. Here the free operation of the economic system would produce certain results, but all or part of the control may be assumed by governmental or

other agencies. The *composition* of the products of the economy is one of these optional items. If the system is allowed to operate without outside interference it will produce that mixture of goods which has the highest total value, as determined by the consumers' preferences. Almost always, however, the community as a whole, acting through government agencies, modifies this composition by restricting or prohibiting the production of some items and requiring the production of others. The range of action of this nature extends all the way from merely regulating the production of certain items – addictive drugs, for example – to comprehensive "planning" in which an attempt is made to pre-determine the entire output of the economy. The extent to which authoritarian control *should* be substituted for the automatic operation of the economic system is a matter of opinion, or judgment, and therefore outside the scope of economic science.

Another point where outside control is optional is in the determination of relative wages. Although the general relation between money and wages, the money wage level, must be set arbitrarily, the economic system will establish relative wages for different occupations if it is permitted to do so. However, in most countries, including the United States, relative wage rates are set by some legal or extra-legal process, and are based more on the political and economic strength of the various occupational groups than on any value criteria. In an era when resort to force as a means of resolving conflicting claims is quite generally condemned, the persistence of "tooth and claw" policies for the determination of relative wage rates is a strange anomaly. And certainly the results of these policies do not conform to any standards of justice or equity. It can hardly be denied that free operation of the value system as in the goods markets would produce far more equitable results.

Of course, correction of this situation could only be accomplished as a part of a more general program that would address other major problems of the economy, and thereby attract a wider range of support. Adoption of some program along the lines suggested in *The Road to Full Employment* to assure continuous employment for all those willing and able to work would, at least, be required. But since correction of these other weaknesses in the economic system

should be undertaken in any event, reform of the procedure for wage determination is a feasible and well worth while addition to the objectives.

Price control is generally associated with wage control in economic thinking, but, as has been explained in the preceding pages, the general price level is a result of actions taken ahead of the goods markets, and therefore cannot be controlled directly. Price controls for the usual purpose – to hold down the cost of living – are thus futile. They may, however, be applied to certain individual items for special purposes, in which case whatever reductions are applied to the prices of the controlled items are offset by automatic increases in the prices of other products.

Finally, there is the question of control over interest rates. This power, exercised by the Federal Reserve system in the United States, has a significant effect on the economy, an effect that is generally detrimental, in present-day practice, where the prevailing policies call for throttling business activity as the primary means of controlling inflation.

A problem here is that the interest rate cannot be increased above the normal competitive level, or decreased below that level, without subsidizing the difference. This point is not generally recognized. It is, of course, obvious that the cost of borrowing goes up when the interest rate is raised, but most observers fail to see that maintaining an interest rate below the free market level likewise involves subsidizing an additional cost. Keeping the interest rate artificially low requires issuing new money for the purpose. The entry of this new money into the circulating stream raises the market price level. Consumers in general thus lose an amount of buying power equsl to that gained by the borrowers who get the benefit of the lower interest rate.

The foregoing identification of the points at which controls can be applied to the economic mechanism and the types of control that can be exercised, carries with it the implication that no other control is possible. This is correct. However, certain measures that are *intended* to control other aspects of the economy are currently considered feasible, and appropriate, on the basis of accepted economic theory, and are frequently put into effect when some modification of those

features of the economy appears to be desirable. But these measures either do not accomplish the results at which they are aimed, or do so at the cost of introducing collateral effects of a detrimental nature that far outweigh the meager accomplishments. The description of the controls that are possible will therefore be supplemented by some consideration of the most important of these controls that are either not possible at all, or not feasible from a practical standpoint.

*Direct control of the general price level* (the usual meaning of the term "price control") is impossible, for the reasons previously explained in detail. The reasons why *control over the general level of real wages* cannot be exercised were also explained in the previous discussion. *Control of the amount of real purchasing power* available to the consumers is another impossible task. More money can be injected into the economy, but this does not add any purchasing power. It merely dilutes the value of the money previously available for purchases, and does not enable buying any more goods.

From this it follows that *"increasing demand,"* the centerpiece of most of the modern prescriptions for improving the performance of the economy, is impossible in real terms. The "increased demand" is simply an inflationary addition to the *money* purchasing power, and it has all of the disadvantages of any other money inflation, as well as the stimulating effect on business that its advocates want to produce. Furthermore, it is inevitably followed by deflation. Demand, in real terms, is determined by production, and it cannot be increased by changing the money labels.

So far, the discussion in this chapter has dealt with controls over the operation of the economic system. The objective of that operation is to put goods of the desired kinds into the hands of the individuals who have participated in the economic process. But some portion of these goods must be allocated to paying the expenses of the governmental agencies that make organized economic activity possible, and most of this is usually recaptured from the workers and suppliers of capital who receive the larger shares of the proceeds of the economy. Thus a certain amount of *redistribution* of the products normally takes place. This redistribution is completely under the control of the appropriate agencies of society, and it can therefore

be used for a variety of purposes in addition to raising the revenues needed to pay the costs of government. Here, then, the community has at its disposal a method of control over the ultimate results of economic activity that is exercised *after* the economic system has completed its work.

In many cases it is possible, by means of these readjustment measures, to accomplish the same objectives that the nation is now trying to attain by the use of controls that affect the operation of the economy. There is a big advantage in so doing, because free operation of the economic system is geared to production of the maximum values, and any modification of the automatic operation therefore involves a loss of productivity. Not infrequently there are undesirable collateral effects as well. Handling the redistribution as the last act avoids these productivity losses and other adverse effects.

The minimum wage situation is a good example. As emphasized in the earlier discussion, if anyone is paid more than the market value of his services, the real earnings of the rest of the workers in the community are reduced below *their* market value by this same amount. (The adjustment is automatically accomplished by an inflation of the price level.) No employer can afford to pay wages above the market levels unless his competitive position is such that he can recover the added amount by adjustment of his price structure. For this reason the existing minimum wage laws do not require anyone to pay the minimum wage; they simply forbid the employers to hire anyone at a lower rate. The result in a great many cases is that the worker loses the employment opportunity.. Thus these laws are major contributors to the current rate of unemployment.

The finding that the difference between the free market wage level and whatever minimum wage is established by law adds to the price level in the goods markets points the way to a more efficient way of handling the situation. As matters now stand it is generally believed that the employers have to stand the cost of the higher wage, and public approval of such measures is relatively easy to get if someone else pays the bill. But our analysis shows that there is no "someone else," and the consumers (that is, the general public) have to stand the additional cost in one way or another. Under these circumstances

there are distinct advantages in a direct subsidy. Wages of the sub-standard workers can be allowed to find their equilibrium level in the labor markets, and whatever adjustment the community desires to make can be accomplished by an additional payment from public funds. This would leave the cost to the general public just where if now stands, while it would avoid the unemployment and loss of productivity that result from the existing way of dealing with the minimum wage problem.

Of course, it may be more difficult to get public approval of minimum wages or other redistribution measures when the taxpayers understand that they have to pay the bill, but by this time the nation should be mature enough to face its problems openly, rather than having to conceal the facts in order to gain public acceptance of social policies. The costs of such policies cannot be unloaded onto business enterprises, or anyone else; they have to be borne by the general public. If that public, in their capacity as taxpayers refuse to pay, the costs are automatically assessed against them in their capacity as consumers.

The minimum wage example illustrates the point, applicable throughout the economy, that if some adjustment of the market value of labor in favor of the less productive workers is considered advisable, it is far more efficient to make the adjustment *after* the economic system has done its work, rather than to introduce arbitrary modifications into the operation of the system. By so doing, the benefits of the high productivity of the freely operating economic system are retained, without in any way restricting the community control over the ultimate distribution of the products .

The methods of making these final-stage adjustments are *taxation,* which decreases the net proceeds to the individuals that are affected, and *subsidies,* which increase the net proceeds. These are familiar features of all modern economies. Thus the suggestion that social objectives should be attained by adjustments of the results of the market system, rather than by arbitrary actions intended to cause that system to produce different results, does not introduce anything new into the economic situation. It merely takes more advantage of one of the economic tools that is already in widespread use.

Much of the criticism of the individual enterprise economies ("capitalist" economies to their detractors) is focused on what the critics regard as inequities in the product distribution accomplished by market forces. As expressed by Heilbroner and Thurow:

> The market system was thus the cause of unrest, insecurity, and individual suffering, just as it was also the source of progress, opportunity and fulfillment. In this contest between the costs and benefits of economic freedom lies a theme that is still a crucial issue for capitalism.[170]

What these and other critics fail to take into consideration is that no economic system automatically accomplishes what they, or any other critical observers, regard as an equitable distribution of the products of economic activity. In all cases there has to be an arbitrary adjustment for this purpose. The difference is that in an authoritarian type of economic system the adjustment is applied mainly (entirely, in the ideal system) to the operating elements of the mechanism – wages, prices, currency controls, etc. – while in a market system it is applied mainly (entirely in the ideal system) *after* the economic mechanism has completed its work.

*Any* modification of the results that would be produced by free operation of the markets that can be accomplished in one of these ways can also be accomplished in the other manner. Thus the "contest between the costs and benefits of economic freedom" cited by Heilbroner and Thurow is non-existent. It is not necessary to sacrifice any of the advantages of efficient operation. Any "benefits" for individuals or the public at large that can be secured by authoritarian modification of the operation of the economic system can be obtained just as easily by adjustments made after the system has done its work.

It follows that any final result in the way of distribution of the products of the economy that can be attained under any other economic system can also be attained by a market system, such as the American individual enterprise system, with a much greater degree of efficiency. The only disadvantage – if it is one – is that since the last-stage adjustments are out in the open , where they can be seen for what they are, the public may not be as ready to accept them as they are to adopt a program in which the incidence of the costs is

concealed. Many individuals who are quick to support the idea that the "big corporations" should be required to pay their employees a "living wage" will not be quite so quick to give their approval when they understand that any difference between that legal wage and the free market value of an individual's services has to come out of the pockets of the general public.

Much of the support that economists have given to authoritarian economic systems has been based on their lack of confidence in the ability of the public to arrive at socially desirable answers to economic questions. "Every unwise choice on the part of consumers brings about the production of some useless or even injurious commodity,"[171] says one textbook. The authors contend that we should produce "only the most desirable kinds of goods, as judged by the ideals of our most enlightened thinkers."[172] The question as to who are these "enlightened thinkers" is one on which a consensus will not be easy to achieve. However, the merits of the arguments in favor of authoritarian control of this nature are a matter of opinion, and they no longer have much support outside the Marxist economies. It is not likely, therefore, that they will ever have much appeal to the American consumers, accustomed as they are to demanding, and receiving, the kind of products that they are willing to buy.

The consent of the public will also be required if any change from the existing indirect wage subsidies to direct subsidies is to be made, and this will not be easily obtained. However, it would probably be acceptable as one component of a full-scale employment program of the kind recommended in *The Road to Full Employment.*

## CHAPTER 21

# From Theory to Practice

In the domain of the physical sciences the individual who deals with specific everyday problems is not ordinarily called upon to develop the underlying theory before he tackles the job immediately at hand. The engineer who is commissioned to design a structure to meet a particular need, the bridge that we have been using as a typical engineering problem, for example, merely reaches for his handbooks and plunges into the details of his task, secure in the knowledge that the principles outlined in his works of reference are accepted by all those who labor in his field, and represent the most advanced thinking of a science that consolidates its gains as it goes along and moves ever forward toward the ultimate truth. He does not need to concern himself about where to find the basic data that he requires, for he knows that, except for minor details, he will get the same information from every source. If he prefers one handbook to another, it is not because the contents differ, but because the arrangement of the material is more to his liking.

This does not mean that the engineer's ultimate results are immune to controversy. From his reference material he can determine the strength that his bridge members must have in order to withstand the stresses to which the structure will be subjected, and the community would never consider making any reduction in the beam sizes or ordering tension members to be redesigned as compression members, The citizens recognize that the basic engineering principles are valid and binding, and that they must be adhered to, no matter how much someone might like to deviate from them in order to reduce the cost or change the appearance of the structure. But the purely theoretical bridge that emerges from the engineer's calculations cannot be built. The actual structure must have a definite form, it must be built of some specific materials, and it must have a particular location, none of which can be drawn from a textbook, and all of which are subject to controversy and differences of opinion.

Theory merely requires that a particular bridge member have a certain specific strength. It does not tell us whether the member should be made of wood, steel, concrete, aluminum, or any other material that can meet the requirements. The choice between these alternatives, as well as the choice of location and other similar decisions must be made on the basis of cost, appearance, convenience, or other considerations outside the realm of science. The engineers can and do evaluate these items according to their best judgment in the course of preparing their recommendations, but, as pointed out earlier, it is entirely in order for the community to disagree with them as to the relative weight that should be assigned to the different considerations that are involved, and to alter the plans accordingly. For instance, the engineers may recommend the use of steel on the basis of lower cost, but the community would be justified in ordering a change to reinforced concrete if the citizens concluded that the appearance of a concrete structure would be more in harmony with the surroundings, and for that reason would be worth the additional cost.

One of the major reasons why economics has never fully emerged from its infancy is that the important distinction between these two kinds of issues has not been recognized either by the economists or by laymen. In economic life, as in the physical world of the engineer, our everyday contact with practical problems involves the making of decisions between various alternatives, all of which may be theoretically sound. Questions of tax policy, for example, are generally analogous to the selection of materials for bridge construction. We cannot argue that an excise tax will not raise revenue, any more than we could contend that it is impossible to build a bridge of aluminum. If we are opposed to the tax we must base our argument on some other contention, perhaps that the additional revenues are not necessary, or that some other method of taxation would be more advantageous. But in economic affairs there has been a general failure to realize that there are also many economic issues that are governed by fundamental principles which are beyond our control and are no more subject to alteration by majority vote than the sizes of the bridge members.

This lack of recognition of the necessity for conforming to basic economic laws is responsible for the collapse of many a well-intentioned

socio-economic program. Just as a bridge constructed in defiance of the basic principles of mechanics soon becomes a pile of wreckage, so any economic program formulated in defiance of, or in ignorance of, the basic principles of economics, also goes down in failure, regardless of how commendable the motives of its sponsors may be.

As stated in Chapter 3, the two major economic problems for which economic science can be expected to provide solutions are unemployment and economic stability. Contrary to the prevailing opinion of the economic profession, we find that there is no necessary connection between these two problems, and that each can, and should, be treated independently of the other. The entire employment study, including both the theoretical development and the identification of available practical methods of applying this newly developed theoretical understanding has therefore been separated from the remainder of the work, and has been published under the title *The Road to Full Employment.* This present volume is concerned with all of the other aspects of the operation of the economic system, but the concluding chapters will concentrate mainly on the second of the two major problems: how to stabilize business conditions and avoid booms and recessions.

This is a practical, not a theoretical problem, and it is analogous to the tasks of the engineer rather than to the work of the pure scientist. If it were a physical problem, the engineer who attacked it would have no concern about the theoretical fundamentals; he would find adequate sound and tested theory available at his elbow. But economics provides no such background of established and accepted theory. Instead of giving us substantial agreement among all reference books, such as we find in the engineer's library, the literature of the economic profession is notorious for the diversity of its views. "Economists are still of many schools and clash heatedly on a thousand issues."[173] reports Arthur F. Burns.

In large part, this lack of agreement stems from the absence of any definite correlation between the hypothetical economic world of the academic theorist and the real economic world in which we live and go about our daily tasks. "For the purpose of academic theorizing," says Jacob Viner (who was not a zealous critic of the economic profession, as his words might suggest, but a prominent

member of the economic Establishment), "the premises the theorist starts from may without serious penalty be arbitrarily selected, narrowly restricted in range, and purely hypothetical in nature." In the same connection he admits that "for purposes of teaching, or of acceptable writing for his restricted audience of fellow theorists, his conclusions are of little importance; and what matters above all is the rigor and elegance of his manner of reaching them."[174]

But these theorists who are interested primarily in elegance of treatment, and regard conclusions applicable to real economic problems as unimportant trivia are at present our only source of economic theory. And they cannot give the public official or businessman who needs answers to concrete practical problems the kind of help that is needed. Again quoting Viner:

> The theorist's habitual methods of analysis are such as to lead to "right" or "wrong" answers to manufactured problems, the premises and the criteria of rightness being so chosen as to make this not only possible but necessary. For the policymaker, however, the problems are for the most part not of his own devising, but are presented to him by outside forces, in vague and ill-defined fashion, and what he asks of his advisors consists as much of help in determining what the problems are as of help in finding solutions for them. The theorist here is likely to find himself uninformed and unskilled."[174]

The first task of the present project has therefore been to supply the practical, usable, economic theory that we cannot get from the theorists to whom Viner refers – to sift the great mass of material available in the economic literature, separate the grain from the chaff, and build from the ground up the sound theoretical structure that is essential for any real progress toward the defined goal. The results of this effort constitute the preceding 20 chapters of this work. No answers to practical problems were developed in those pages, although the solutions for many of our present difficulties are clearly foreshadowed by the theoretical relations and principles that were there formulated. The work up to this point has been confined to producing the equivalent on a limited scale of the engineer's handbooks: a compilation of pertinent rules and principles that will form the background for our approach to the problems at hand. The most important of these are the *General Economic Equation,* and the seventeen *Basic Principles,* which are here recapitulated for convenient reference.

## THE GENERAL ECONOMIC EQUATION

$$\frac{B}{V} = P$$

## THE BASIC PRINCIPLES GOVERNING PRIMARY ECONOMIC PROCESSES

**PRINCIPLE I: Purchasing power is created solely by the production of transferable utilities, and it is not extinguished until those utilities are destroyed by consumption or otherwise.**

**PRINCIPLE II: Only goods can pay for goods.**

**PRINCIPLE III: Purchasing power and goods are simply two aspects of the same thing, and they are produced at the same time, by the same act, and in the same quantity.**

**PRINCIPLE IV: Exchanges between individuals or agencies at the same economic location (the same location with respect to the economic streams) have no effect on the general economic situation.**

**PRINCIPLE V: The income to the producer from goods produced is exactly equal to the expenditures for labor and the services of capital. The net result to the producer is zero.**

**PRINCIPLE VI: The circulating purchasing power arriving at any point in the stream is equal to that leaving the last previous processing point, plus or minus net reservoir transactions.**

**PRINCIPLE VII: Except as modified by reservoir transactions, the purchasing power (money or real) available in the goods market is equal to the purchasing power expended in the production market.**

**PRINCIPLE VIII: Any net change in the levels of the consumer purchasing power reservoirs results in a corresponding change in the money price level in the goods market, except insofar as it may be counterbalanced by a net change in the levels of the goods reservoirs.**

**PRINCIPLE IX: The market price levels are independent of the volume of production.**

**PRINCIPLE X Any net flow of money from the consumer reservoirs to the purchasing power stream, or vice versa, causes a corresponding change either in production volume, production price, or both**

**PRINCIPLE XI: Arbitrary increases or decreases in wage rates have no effect on the volume of production or the ability of consumers as a whole to buy goods.**

**PRINCIPLE XII: Voluntary market price changes by producers have no effect on the volume of production or the ability of consumers as a whole to buy goods.**

**PRINCIPLE XIII: All consumer purchasing power must be used for the purchase of goods from producers; it cannot be used for the purchase of goods already in the hands of consumers, or for raising the prices of such goods.**

**PRINCIPLE XIV: The quantity of money existing within an economic system has no effect on prices or on the general operation of the system, except insofar as the method by which money is introduced into or withdrawn from the system may constitute a purchasing power reservoir transaction.**

**PRINCIPLE XV: Credit can make goods available to one individual or group of individuals only by diverting them from other individuals.**

**PRINCIPLE XVI: The cost of the services of capital is fixed by competitive conditions independently of productivity.**

**PRINCIPLE XVII: Average real wages are determined by productivity, and are equal to total production per worker less the items of cost that are determined independently of productivity: taxes and capital costs.**

Here in these seventeen basic principles and the General Economic Equation are the teachings of *economic science* as they apply to the subject matter under consideration. These principles rest firmly on solid facts, not on assumption, speculation, or guesswork, and they have been derived from those facts by processes which are logically and mathematically exact, even though extremely simple. Because of their factual nature they are *specific.* In their statement there is none of the hedging or evasion that characterizes much of the usual treatment of economic subjects. All relations are set forth in positive terms, not as "tendencies" or "propensities."

In addition to being specific, these principles are *universal.* Unlike many of the conclusions of conventional economics, they are not limited to any particular economic system or to any special set of conditions. They governed the Cave Dwellers in their strenuous efforts to earn their living at the dawn of history, and they will apply with equal force to the streamlined multi-cylinder economic machine of the far distant future. They govern economic processes,

not merely the systems of which these processes are constituent parts, and they are applicable to the processes wherever and under whatever system they may appear. The familiar contention that a socialistic economy is subject to a set of principles that differ from those which rule our individual enterprise system is as absurd as if we were to contend that the laws of physics applicable to a concrete bridge are not the same as those which apply to a steel structure.

It is true that some of the basic principles may have no practical application in certain economic organizations. The economic laws governing money and credit, for instance, are meaningless in a barter economy, but they are on the economic statute books just the same, and they are immediately and fully applicable whenever money or credit is introduced. The oft repeated statement that "no theoretical conclusions (in economics) are valid for all times and places" is merely an excuse for the failure of poorly constructed theories to cover their entire field. Basic principles that are not equally valid for all economic systems and for all times and places are either incomplete or erroneous.

Next we note that these principles of economic science are *mutually consistent,* a feature in which conventional economic theory is weak. Indeed, the lack of integration of economic theory is one of its most outstanding defects. Each individual aspect of economic life has been treated separately as if it were contained in a special watertight compartment of its own. Microeconomics is at odds with macroeconomics. Supply and demand reasoning, for example, has been applied without regard for the limitations on total effective demand that are imposed by the current volume of production, with the very serious consequences that were discussed earlier. The resulting inconsistencies are largely responsible for what Keynes called "the deep divergences of economic opinion between fellow economists which have for the time being almost destroyed the practical influence of economic theory, and will, until they are resolved, continue to do so."[175]

Last, and most important, these principles of economic science are *in full accord with all of the facts and statistics* that are being complied in every increasing volume by governmental and private

agencies, facts and figures which completely riddle many of the theories that are being advanced under the banner of one or another of the current orthodoxies.

As statements of fact, these principles are completely independent of our approval or disapproval. Some of them conflict very definitely with widely held views as to what ought to be, but we invite nothing but trouble if we refuse to recognize facts that are distasteful and persist in patterning our actions on false assumptions. The facts are not hard to find, There is some excuse for errors and misconceptions in a field such as the study of atomic structure where no means of direct observation are available and the data obtained by indirect means are incomplete and rather uncertain. But most economic facts are readily accessible. Unfortunately, too many economists simply refuse to look at them.

"Certainly one of the most striking features of economic thought at the present time," A. B. Wolfe wrote in an assessment of the situation that is equally valid today, "is the prevalence of sheer mathematical logic without a shred of factual data,"[176] and he quoted the opinion of Wesley C. Mitchell that "much of our pure economics is little more than a futile indoor sport."[177]

Not all of the professional economists are satisfied to accept this state of affairs in which the theory of their discipline is almost entirely divorced from the realities of life, and is only a species of mental gymnastics. Critics within the ranks are plentiful, and the need for a more fruitful approach to economic problems is freely expressed. But these dissenters are too close to the picture to see it in the proper perspective. They are unable to recognize that something more than reconstruction of their theories is necessary; that what is needed is major surgery, the complete separation of the scientific aspects of economic from the sociological aspects, and the development of a true economic science.

The new economic science based on the findings of this present work has furnished the exact, consistent, and universally applicable set of basic principles that has been recapitulated in this chapter. Here in concise form is the fundamental knowledge that is needed in order to lay out a workable program for reaching our economic

objectives. With this information at hand we are now ready to take up a consideration of the practical aspects of the various problems. In the pages that follow, the measures previously proposed for the improvement of general economic conditions will be analyzed, and the possible contribution that each is capable of making toward economic stability will be determined. Some additional measures of an appropriate character suggested by the facts brought out in the analysis will also be presented and discussed. On the basis of this study a complete program for business stabilization will be recommended – a program which will eliminate booms and recessions and will permit the economy to operate on a permanent high level.

The conclusions reached in this study do not constitute an economic "plan" in the usual sense. There has been such a deluge of "plans" in recent years that the ordinary citizen is beginning to show signs of alarm when an advocate of a new scheme of this kind appears on the horizon. The primary purpose of this work is to identify and define the requirements that an economic plan of any kind must meet in order to accomplish the purpose for which it is designed. In essence, therefore, it is not a plan, but a yardstick for judging plans.

Of course, in order to follow up the theoretical findings to their logical conclusions, the yardstick is actually utilized so that the final recommendations can be made explicit and in detail, but it should be understood that no claim is being made that these are the only measures that will attain the desired results. In most cases several alternative measures are identified as suitable for the particular purpose in view, and the final recommendation is merely a matter of choice among these alternatives. It is also possible that other practical measures which meet the theoretical requirements laid down in the earlier chapters still more satisfactorily than those recommended will ultimately be devised.

Inasmuch as this study was undertaken on the basis of the reasonable premise that the precise and well-developed methods of the physical sciences would be able to accomplish results beyond the reach of the less accurate tools of the socio-economist, there is no occasion for surprise when we actually do find simple and obviously

correct answers to some of the major problems that have baffled the economic profession. What has been astounding, however, is the way in which these answers stand out in bold relief as soon as we make a careful and systematic survey of the pertinent facts in their proper economic setting, even before we have had an opportunity to enter into any exhaustive analysis.

So it is with the study of depressions. As soon as we started to set down an accurate description of the operation of the economic system, preparatory to beginning analysis, it was apparent that the flow of purchasing power around the economic circuit is continually being modified by transactions involving inputs into and withdrawals from certain reservoirs along the line. Immediately it became clear that this is the key to the whole problem. Of course, considerable spadework was required in order to clarify the details of the operation of the price mechanism and the characteristics of the business cycle, but the cause and cure of depressions were already evident before the quest had hardly started.

It is evident from the information developed in the foregoing pages that the cause of economic instability in all of its manifestations – money inflation, deflation, booms, recessions, depressions, and the business cycle in general – is an artificial variability in the flow of the circulating medium due to irregular inputs into and withdrawals from the money and credit reservoirs. The obvious remedy is to take compensatory actions which will counterbalance the net excess of the reservoir transactions and will maintain a flow of money purchasing power into the markets which will always be equal to the amount generated by the production of goods. Each of the various practical means of accomplishing this result will, however, have some collateral effects on the economy that will need to be taken into consideration in making a selection from among the available methods, and there are also certain basic points that should have special attention in this connection.

First, it should be clearly understood that the business cycle is simply an alternation of money inflation and deflation. It consequently follows that any measure which is effective against money inflation is a measure that can be used to control the cycle.

Complete stabilization requires control of deflationary as well as inflationary tendencies, but the anti-inflationary measures can usually be reversed for this purpose.. It should also be recognized that the collateral aspects of these measures are irrelevant from the control standpoint. The objective is a regulation of the flow of money purchasing power, and the nature of the tool utilized for this purpose is immaterial. Monetary measures, fiscal measures, direct control measures, control of foreign transactions, are all tools that are available for use, but none of these has any unique feature that is indispensable. Fiscal measures, such as variable tax rates, could be used for the purpose, in which case none of the others would be required. Or a program of some other kind could be adopted, in which case the fiscal measures would be unnecessary. The only requirements are: (1) that we know exactly what kind of a control over the money purchasing power stream is needed, (2) that we have *some* effective method of exercising such control, and (3) that we have adequate facilities for measurement and monitoring, so that the compensatory action can be applied in the exact amount required.

But even though the collateral aspects of these various possible control measures are irrelevant from the standpoint of the control operation itself, they may be very important in other respects. The whole benefit of the stabilization program would be lost if adverse side effects of the control measures are as serious as the economic instability itself, or if these measures have some features that are highly objectionable to the public at large.. The task of the practitioners of applied economic science, the economic engineers, we might say, is to analyze the various possible measures that have been suggested, or that they may be able to devise, and to determine which of these is capable of accomplishing the desired objectives with the least disruption of other economic relationships.

While we are recognizing that money inflation, deflation, and the business cycle in general are all *one* problem and can be controlled by *one* suitable measure or set of measures, it is equally important to realize that employment is a separate and distinct problem that must be handled by measures of a totally different character. It is true that under existing conditions the business cycle has an effect – sometimes a very drastic effect – on employment. But our findings are that there

is no *necessary* or *direct* connection between the two. A failure to recognize this fact is to a large extent responsible for the conspicuous lack of progress toward solution of these two serious problems. The discussion of economic controls in the remainder of this volume will be confined to matters having a bearing on the stabilization question. Some of the proposals that will be discussed also have other aspects that relate to employment rather than business stability, but these issues were considered in detail in *The Road to Full Employment.*

Inasmuch as the findings of this work with respect to employment are in direct conflict with current economic thought, which regards unemployment as the essence of the depression, and may also seem to conflict with the undeniable fact that depressions do generate unemployment, it may help to clarify the nature of these findings if we compare the control of the business cycle with an analogous task in the physical field: control of humidity. It is generally understood that the relative humidity in a dwelling is an important factor in the comfort of the inhabitants, and where possible variations are great some control measures are desirable. In studying this situation we find that there is a definite correlation between humidity and temperature; that is, an increase in temperature decreases the relative humidity, and vice versa. This is the same kind of a correlation as that which exists between the business cycle and employment. When the business cycle (analogous to temperature) is in the rising stage, unemployment (analogous to relative humidity) decreases. In the downward stage these trends are reversed. It follows that If we wish to keep the relative humidity at some suitable level, we could accomplish this by controlling the temperature. We would then be doing essentially the same thing that is now being done in the economic field, where the current approach to the unemployment problem relies almost entirely on inflationary measures for stimulating business activity.

In the physical situation it is easy to see that this problem of controlling the humidity by varying the temperature would be absurd. When the room is cold and clammy, an increase in the temperature is quite appropriate, since this brings both temperature and humidity into the desired range, but applying the same corrective in a hot and humid situation would create a high temperature problem worse than

the humidity. In this case it is obvious that although humidity can be controlled by regulating the temperature, this is a very poor way of accomplishing the desired result. The efficient and effective method is to keep the temperature at a comfortable level, and to control the humidity independently by adding or withdrawing moisture.

Similarly, in the economic situation we can reduce unemployment by means of money inflation, but here again this is a very poor way of accomplishing our purpose, as money inflation has some very undesirable effects. Furthermore, an inflation of this nature must inevitably be followed sooner or later by deflation, so that in the long run the beneficial effect on employment will be nullified.. As in the physical situation, the efficient and effective procedure is to set up two separate controls, maintaining market prices at the equilibrium level by stabilizing the flow in the money purchasing power stream, and controlling employment independently by purely employment measures.

## CHAPTER 22

# Dealing with Recessions

As pointed out in Chapter 21, the principles and relations that were developed in the theoretical discussion in the early pages of this work specify distinctly and definitely just how stabilization of the economy can be accomplished, and it would be possible to proceed immediately with the identification of suitable practical measures for achieving the desired results. However, most of the measures that will be recommended are not new; they are included, in one form or another, among the multitude of proposals that have been offered in the past as solutions for the problem, or as contributions toward such a solution. It may not be immediately apparent, therefore, just where the conclusions of this work differ from their predecessors, or why the recommended measures can be expected to accomplish their purpose under the proposed new program when they have not done so in the past. For this reason it seems advisable to discuss the various remedies for our economic ills that have previously been proposed, and to examine them in the light of the economic principles that have been developed in the foregoing pages.

Some of the proposals that will be included in this review of previous ideas are so far out of the mainstream of economic thought that they may seem out of place in a serious discussion. But these proposals *have* been given serious consideration during past periods of economic stress, and in view of the lack of any accepted criterion of validity, it is quite probable that at least some of them will surface again when the economy once more runs into difficulties.

From the results of this analysis we will be able to appraise the merits of each proposal, and we will then check this theoretical evaluation against the results that have been obtained in actual practice. When we find, as we will, that the plans judged worthless on the basis of this appraisal have fizzled out without doing any

appreciable good, that the proposals which have some sound points, according to our analysis, have been partially successful, and that the measures which we have identified as theoretically correct have been effective for their particular purposes to the extent that they have been correctly employed, this should put the findings of this work into the proper perspective.

What we have done is not to devise any new tool for stabilization purposes, but to determine precisely *what* needs to be stabilized, *how* this stabilization can be accomplished, what contribution toward the defined objective each of the measures previously proposed can make if properly applied, and how the condition of the economy from the stability standpoint can be *measured* for control purposes. The essence of the new program is a clear recognition of just what should be controlled, and the formulation of a procedure which will insure that the control measures are applied in exactly the right direction at exactly the right time.

In the discussion of measures previously utilized, or advocated, for this purpose it will be brought out that some have failed, or would fail if they were tried, because they contribute nothing toward the particular kind of action that is necessary, whereas other measures actually do have an effect on the business cycle, and have failed, wholly or partially, in past applications only because they were applied without any clear understanding of what they were capable of doing, and without any adequate criterion by which to judge the magnitude of the action that should be taken.

It was pointed out in Chapter 18 that the principal reason for studying the reaction of the world economies to wartime conditions is that operation under the stresses introduced by the diversion of civilian productive facilities to war production intensifies the problems of the normal economy, and makes it easier to see their true nature. The situation with respect to economic stability is somewhat similar. We can see the reasons for instability and the effects of corrective measures most distinctly by viewing them under extreme conditions – specifically in a major depression, where all of the principal economic problems became serious enough to be clearly defined. The discussion that follows will therefore be addressed to the issue as to how to deal with a severe recession, or

depression, and will concentrate largely on experience during the Great Depression of the 1930s.

## Psychological measures

Usually, one of the first expedients called upon in a time of difficulty is an attempt to change the psychological outlook by reassuring words from men in high places. In the early stages of the depression of the thirties a flood of optimistic statements emanated from administration spokesmen and prominent business figures, but the decline continued on its way in cynical disregard of the eminence of these modern King Canutes.

These reassurances are doomed to failure for two reasons. First, they fool no one. Those who suspect the worst are not going to change their opinions merely because some of those persons vitally interested in maintaining the status quo talk loudly about the fundamentally sound conditions. An even more significant point is that the condition of the money and credit reservoirs at the top of the upswing is abnormal and cannot be maintained except under the influence of a *rising* trend of prices and general business activity. Much of the borrowing has been for the purpose of taking advantage of rising price levels. Speculators, for instance, have no incentive to continue using borrowed funds if the market remains stationary. A change from a rising trend to a level trend therefore causes a substantial contraction in credit (an input into the credit reservoir) as well as a rise in money storage toward more normal levels.

The diversions from the purchasing power stream to fill the reservoirs reduce the flow of purchasing power to the markets not only to the equivalent of production, which would stabilize prices, but to a still lower level. This causes a drop in market prices, and the whole system starts down. There is no stationary condition, in the absence of an effective control program. We jump directly from the upswing to the downswing. Unless the psychological campaign can convince the public that the rise is still going on (an obviously hopeless assignment) it does no good to convince them that there will be no decline, for the realization that the rise is over is sufficient in itself to start the decline.

The decline must continue, in an uncontrolled economy, until the abnormal conditions in the reservoirs are corrected. If the situation at the peak is not much overbuilt, the drop is moderate and the repercussions are limited, though not without importance. If the peak is capped by speculative excesses, the fall is precipitous, and by the time the abnormal reservoir conditions are corrected a further crisis is created by the increase in unemployment. We cannot talk ourselves out of this kind of a problem.

## "Buy now" campaigns

Closely related to the "proclaim optimism" approach is the idea that the decline can be stopped by persuading the public to do more buying. But it is unrealistic to expect any substantial increase in consumer buying during a period of falling prices, and there is no incentive for an increase in business investment. To the extent that these two propaganda programs are convincing, they may have some effect in slowing the rate of decline, but the value of this achievement is questionable, to say the least. If we must have a depression, the sooner we get it over with the better.

## Loans to industries and homeowners

In the 1930s depression the government embarked on a program of making loans to distressed industries on a hitherto unprecedented scale. Similar help was extended to homeowners who were unable to meet their commitments. These loans, with relatively few exceptions, were not new credit, but merely devices to prevent the forced liquidation of existing credit. All they accomplished, from the standpoint of the system as a whole, was to slow up the process of refilling the credit reservoirs and thereby retard the speed of deflation. The loans were unquestionably helpful in minimizing individual distress, but they cannot be considered as contributing toward the restoration of normal business conditions.

If we take a cold-blooded factual view of the situation, and ignore the inequality of personal hardships, it is clear that, as long as the means that are available for controlling money inflation remain unrecognized by the monetary authorities, measures such as these

loans actually stand in the way of the readjustments that are necessary before the trend of business can be reversed. Before a rise can begin, as matters now stand, liquidation of credit must proceed until the credit reservoirs are full enough to cause an outward pressure. Bankruptcies would hasten this process. Propping up tottering industries delays the readjustment and prolongs the depression. This does not mean that such a cold-blooded policy ought to be followed under such circumstances. From a humanitarian standpoint we are no doubt justified in relieving individual distress at the expense of the interests of the community as a whole, but we should adopt remedial measures with our eyes open, and not delude ourselves into thinking that they contribute toward the restoration of prosperity. The dilemma that we face here is one of the strong arguments in favor of setting up the kind of controls that will eliminate the cyclical swings.

## Work spreading

Work spreading measures – reduced hours per week, rotating employment, etc. – are somewhat similar in that their primary effect is to reduce individual hardship. Analysis shows, however, that they do not retard recovery in the same manner as the loan programs just discussed; they simply do not affect the depressed business situation either one way or the other. The acceptance of the "relief" or "welfare" principle in recent years means that the effect of work sharing under present conditions is merely to reduce the amount of welfare expenditure, a result which has little bearing on the general economic situation.

The basic question here is whether the burden of supporting the unemployed should be met by the taxpayers in general through welfare payments, or by the employed workers through sharing their employment and earnings. In either case, the action is one which takes from one group of individuals and gives to another group; that is, it is a transaction between individuals at the same economic location. Hence it has no significant bearing on the problem of economic stability, nor does either alternative make any contribution toward recovery from a depression. The effect of work spreading policies on overall employment and economic growth was discussed in *The Road to Full Employment.*

## Welfare payments

The severity of the unemployment during the 1930s depression, together with a developing sense of community responsibility for the economic status of individual citizens, resulted in general acceptance, for the first time, of the principle that those who are unable to find employment, through no fault of their own, are entitled to support by the community during their period of enforced idleness. The obvious equity of this policy will no doubt make it permanent until the need is eliminated by some such program as the one that will be developed in this work. The welfare payments have no direct effect on the general operation of the economic mechanism (although the method of obtaining the necessary funds to finance the payments may have, an issue that will be discussed later.) They merely transfer purchasing power from one group of consumers (the taxpayers) to another (the recipients)–a transaction between individuals at the same economic location. Consequently, they have no value as a control measure or as an anti-depression measure. Such transfers make the depression more endurable, but they do not contribute toward recovery.

Furthermore, there are some indirect results that should be noted. The alleviation of distress, commendable as it may be from some standpoints, does have the effect of removing much of the pressure for positive action toward remedying the basic trouble, In short, it acts as a sedative to keep the patient quiet, but does nothing toward a cure. The influence of huge welfare rolls on the state of public confidence must also be given some consideration. In the previous discussion of business cycles it was pointed out that recovery from a depression finally gets under way when the liquidation of debts and the accumulation of money reserves proceeds far enough that further inflow into the reservoirs encounters resistance, at which point even a small degree of optimism as to future prospects starts an outflow that reverses the cycle. There is no question but that large welfare expenditures have a dampening effect on business confidence, and hence tend to prolong depressions.

## Unemployment insurance

From a purely economic standpoint unemployment insurance and welfare payments are equivalent. The foregoing discussion of welfare payments therefore applies, in general, to unemployment insurance as well. But the insurance programs are much more satisfactory to the workers because they eliminate (for the term of the insurance coverage) the uncertainties as to eligibility and as to the amount of payment. The scope of the insurance coverage is therefore being gradually extended.

## Subsistence employment

Much the same considerations apply to the various alternatives to welfare, mainly schemes for taking care of the unemployed by assigning them to special types of work by means of which they could earn a bare subsistence. "Back to the farm" movements (in the face of declining prices for farm products), self-help programs, and various more or less elaborate communal projects make up this class. An example of the last mentioned variety is a plan proposed during the 1930s depression by Professor Frank Graham, who would have the government lease idle factories and other properties and put the unemployed to work producing goods that could be exchanged among themselves to take care of their essential needs. As pointed out by W. I. King, who was one of the supporters of Graham's plan, these enterprises would be very inefficient in comparison with ordinary producers, and the workers would have to put in long hours to obtain even a fraction of the rewards of normal employment.[178]

This fact was listed by King as one of the merits of the plan, inasmuch as it would insure continued efforts by the participants to secure normal employment. But the general public attitude toward the victims of economic difficulties has undergone drastic changes since 1930. The same electorate which has finally arrived at the point of recognizing the community responsibility for furnishing a living to those who have been deprived of the opportunity to earn it for themselves because of the defective operation of the economic system will certainly realize that it is no different, except in degree,

to impose the penalty of long hours and meager returns on those unfortunate victims of community incompetence. The fundamental weakness of all of these subsistence schemes, however, is that they are merely a cheap form of welfare assistance. They treat the symptoms of our economic illness after a fashion, but they do not touch the purchasing power unbalance that must be corrected before the business cycle can be reversed.

## Scrip

The schemes involving the use of substitute money, or scrip, that crop up in every depression or serious recession illustrate the need for careful analysis of economic proposals. To those who see only their superficial aspects and do not inquire too closely into the validity of the claims made by their sponsors, these hybrid concoctions may seem somewhat attractive. Even prominent economists (Keynes and Irving Fisher, for example) have failed to see through the camouflage and have endorsed some such schemes. But when these ingenious products are broken down into their component parts, and each part is analyzed separately, all semblance of merit disappears.

On dissecting any one of the scrip plans, we find that it has three distinct characteristics: (1) it provides a limited substitute for legal currency, (2) it is a means of borrowing money for the purposes contemplated in the plan, and (3) it is a method of taxation to repay the borrowed funds. There are numerous versions of the general scheme, but they are all basically alike, and for the present analysis we can take the most popular version, the so-called self-liquidating scrip.

Looking first at item (1), it is evident that the scrip is a very inferior currency. If it is not made legal tender it will not be generally accepted. If it is made legal tender it will drive good money into hiding, in accordance with the principle that the economists call Gresham's Law. Turning to item (2), the first scrip issued represents the equivalent of borrowing by the issuing agency (some governmental body, presumably). As soon as the redemption feature comes into play, however, the borrowings are offset by the redemption payments, and soon a balance is reached, whereupon the credit expansion effect terminates. So far as the inflation of the price level by government

borrowing may have merit, a matter that will be discussed later, this scrip scheme is an inefficient way of handling the transaction.

As to item (3), the plan constitutes a tax on those who accept the scrip in business dealings. The theory behind the program is that such transactions constitute additional business for those affected, and in view of the lower cost of handling incremental business they can well afford to pay the costs of the plan in order to get the additional volume. But when we examine the situation mathematically we find that there cannot be any additional volume of business originating from the use of the scrip. While those who are using scrip are adding to the amount of money purchasing power flowing to the markets, the purchasing power of those who pay the transaction taxes is being curtailed by exactly the same amount, and except for a small inflationary effect when the plan first goes into operation, the net result is zero. If any one firm gains business, some other firm must suffer an equivalent loss. The ingenious inventors of the scrip plan have overlooked the fact that even if the owners of the various enterprises that handle the scrip stand the loss themselves and do not pass it on to their customers (which is unlikely), payments for the services of capital (profits, interest, etc.) constitute purchasing power in exactly the same manner that wages do, and we cannot add to the total purchasing power by building up one component at the expense of the other.

Furthermore, the incidence of the tax resulting from the use of this scrip is extremely inequitable. If there is any increase in demand for some specific product, either by operation of the inflationary aspect of the plan, which is effective in the early stages before redemption begins, or by a shift of demand from one type of goods to another, the resultant benefit from higher prices or greater volume accrues only to those who participate in the production of the favored goods, whereas the cost is borne only by those who handle the scrip.

Summarizing, scrip is a very poor substitute for money, a decidedly inferior method of government borrowing, an extremely inequitable method of taxation, and it completely fails to accomplish its intended purpose. Putting all of these items together, we have a typical economic patent medicine.

## Price manipulation

Since it is clear to everyone that prices play an important role in the operation of the economic mechanism, it is only natural that restoration of prosperity by means of price manipulation should be among the measures suggested. However, the uncertain ground on which these proposals rest is well brought out by the fact that the advocates of price changes are divided on the question as to whether the modifications should be upward or downward.

One school of thought suggests price increases when recession is threatened, on the theory that higher prices will stimulate replenishment of inventories in anticipation of still further increases. This program, which was actually tried out without any success in the 1930 downswing, not only depends on creating a false illusion as to the general trend of prices, a futile effort, but also collides with the fact that higher prices for some items necessitate a reduction in the prices of some other items, inasmuch as the general price level cannot be altered by the producers' price policies. The price increase program therefore accomplishes nothing.

The other, larger, school of thought advocates price reductions as a means of stimulating consumer buying. This is another of the places where the limitations of the "supply and demand" approach to economic problems causes orthodox economic thought to go astray. It is assumed that price reductions will increase demand, whereupon producers will step up production to adjust the supply to the higher demand, thus leading to a general improvement in economic conditions. The validity of this theory is entirely dependent on the availability of sufficient purchasing power to buy a greater volume of goods. In the case of any single item this requirement is met, as purchasing power can be diverted from other uses in sufficient quantities. But extending the theory to the system as a whole, as the economists of the price reduction school do, is altogether unwarranted, for here the available purchasing power is definitely limited. It is a finite quantity to begin with and, as was brought out in the previous discussion of this point, reduction of prices cuts total money purchasing power in a corresponding degree, and the ability of the consuming public to buy goods is not altered by the price change (Principle XII). The

only significant effect of the action is to transfer a certain amount of purchasing power from one group to another.

## Wage manipulation

The same divergence of opinion that is so striking in the proposals for action with respect to prices is equally in evidence in ideas as to what should be done about wages when depression threatens. The labor unions and those who share their viewpoint advocate raising wages, on the theory that this increases purchasing power and tends to relieve the inadequacy of consumer demand. Businessmen, on the other hand, generally contend that wage reductions are essential under depressed conditions to enable the productive enterprises to continue operation. Most economists are reluctant to take the unpopular side of this argument and recommend wage *decreases,* but there is quite general agreement in economic circles that wage *increases* under depression conditions are not advisable. And it is conceded that the currently prevailing economic theories lead to the conclusion that excessively high wages cause unemployment.[179]

A particularly interesting point is that many of those who are positive in their assertions as to the futility of general wage increases as an anti-depression measure are at the same time advocating general price reductions as the royal road to prosperity. For example, studies by the economists of the Brookings Institution, summarized in a volume entitled *Income and Economic Progress*[180] lay great stress on the desirability of price reductions, and similar contentions can be found throughout economic literature. But the truth is that these two actions are simply alternative ways of doing the same thing: changing the money labels in the markets. Price juggling makes the initial change in the goods market, but the principles developed in the preceding pages show that the production market price must conform. Wage juggling affects the production market first, but the goods market must necessarily conform, and the ultimate result is therefore exactly the same.

Here, then, we have a substantial segment of the economic profession looking at a proposed action from one side and condemning it; then viewing the same thing from the other side and approving it. The

explanation for this inconsistency is that same lack of understanding of the true relation of the production market to the general operation of the economic system which was the subject of comment in Chapter 15, together with a sociological prejudice against price increases, based on erroneous assumptions as to the ability of business firms to control prices and to benefit from that control. When the nature of the interconnection between the various parts of the economic mechanism is clarified, it becomes evident that any change in the price level in either of the markets must inevitably be followed by a corresponding change in the other. The net result of an arbitrary modification (one not required by *market* forces) of either prices or wages will simply be a new equilibrium at a different price level, leaving the general economic situation just where it was.

Under some conditions wage *flexibility* has a beneficial effect on employment, but this present discussion is concerned only with the stabilization problem; that is, with the elimination of the cycle of booms and depressions. The impact on employment is discussed at length in *The Road to Full Employment.* The finding of the investigation being reported in this work is that wage and price manipulation have no effect on the business cycle. This is another of the many places where it is essential to recognize that employment and business stability are two separate and distinct issues that require altogether different treatment. The same point is again encountered when we begin consideration of the next item on our list: the use of public expenditures to "prime the pump" in a depression.

## Pump priming

Here is an outstanding example of an economic experiment that ended in failure because it was based on erroneous theoretical premises. The pump priming theory that Keynes and his associates persuaded the Roosevelt administration to adopt as the principal means of getting the United States out of the Great Depression postulates that a relatively small increase in expenditures on public projects will set regenerative forces in motion which will ultimately result in a vastly greater increase in business activity. As ordinarily explained, the original pump priming expenditure increases the money available for consumer spending, this spending causes producers to increase

production to replenish their stocks, the stepped-up production increases employment, which gives rise to a further increase in purchasing power, leading to a further widening of production, further gains in employment, and so on *ad infinitum.*

The pump priming enthusiasts recognize that there must be some kind of "leakages" from the process. Otherwise business once primed would never stop expanding as long as the necessary labor is available. They have therefore made some estimates as to how much the original expenditure would be multiplied before the beneficial effect on business activity would wear itself out. Keynes argued, in the prospectus that convinced the administration in Washington, that the multiplier would not be much less than five in an economy such as that of the United States.[181] But to the dismay of the pump primers, the multiplier failed to multiply. The feverish priming from 1932 until the situation was changed by the approach of World War II not only failed to start the pump, but contributed materially toward demoralizing the business already existing.

There could hardly be a more conclusive demonstration of the fact that pump priming is not a cure for depressions. Actually, the pump priming theory, so far as its application to a depression is concerned, is a compound fallacy. Not only is there no such thing as a multiplier – a self-reinforcing increase in business activity and employment in response to the priming – but even if there were, this would not contribute anything toward overcoming the depression, as the essence of the depression is not unemployment, even though this is the most painful symptom. The depression is due to the draining of money purchasing power out of the current stream and into the reservoirs, and it cannot be overcome until this flow is reversed. Any increase in production that may take place adds equally to the volume of goods and the volume of purchasing power (Principle III), and does nothing toward correcting the money purchasing power unbalance which causes the price decrease that is the basic feature of the depression. Unemployment can be alleviated by overcoming the depression, but it can be fully eliminated only by *employment* measures. A depression can be halted only by *anti-inflationary* measures. There is no all-purpose remedy that will do both jobs.

## Subsidizing consumption

Subsidies have been so misused in many cases and so bitterly embroiled in controversy in others, that the word has fallen into disrepute, and we now hear much of "aid," "benefits" and "adjustments," and little of subsidies, but all of these are simply subsidies dressed in new clothes to mislead the casual observer. The truth is that subsidies are perfectly legitimate in their proper place and serve a useful and important purpose. But all too often they are advocated, and sometimes put into effect, on the strength of anticipated results that do not, and cannot, materialize. This is especially true of consumer subsidies.

Proposals for consumer subsidies, aside from those that are specifically designed for no other purpose than to provide additional income for special categories of individuals, are usually based on the idea that the purchasing power available to the consumers is not sufficient to buy the full production of the economy, and that the economic well-being of the nation would be improved if additional purchasing power were created and placed in the hands of consumers.

There are many variations of these subsidy schemes, some of which call for operating through the agency of the retailers, others involve preferential treatment for special groups, and still others call for gifts or loans to all consumers. An interesting example of the latter is the "Social Credit" plan which was actually approved by the voters of the Province of Alberta, Canada, at one time, but which, for various reasons, was never put into effect. This plan, in its original form, contemplated a "social dividend" to be paid regularly to all citizens as a means of stimulating production and consumption.

All of these consumption subsidies fail at the same point; they merely transfer purchasing power from one group to another. Contrary to the contentions of their advocates, they do not create any additional real purchasing power; they merely alter the money labels. The "social dividend," if it ever materializes, will not enable the citizens of Alberta to buy the least bit more than they get without it. Their ability to buy the goods that they want is not limited by the supply of money, or the availability of credit, or the phases of the moon. The limit is set by the aggregate net value of the goods

which Alberta produces. In the long run they can buy this much and no more, regardless of how many ingenious financial schemes they may play around with. All that will be accomplished by the "social dividend" is to take some goods away from those who have labored to produce them, and give them to others.

Of course, we will meet the familiar contention that the increase in spending due to the subsidy payments will "increase demand" and will cause an increase in production in response to the greater demand. But both actual experience and theoretical analysis show that *such subsidy programs do not increase demand in terms of real values.* The most that they can do is to cause an increase in terms of money values, which is inevitably offset by an equal rise in prices. If the cost of the program is met by taxes levied on the general public, the purchasing power of the taxpayers is reduced in exactly the same amount as that of the "dividend" recipients is increased, and the total purchasing power of the community remains unchanged. If the cost is met by taxing producers, the production price goes up equally with the purchasing power, the market price necessarily conforms, and again nothing has been accomplished. There is a greater amount of money available for buying purposes, but it will not buy any more goods. No juggling of the money labels attached to goods or to labor can alter their real value.

While most of the proposals for subsidizing all consumers are still in the discussion stage, subsidies for special groups have proliferated rapidly during the last few decades. "Aid" is now being extended to the farmers, to the veterans, to the aged, to the youth, to the indigent, to the migratory workers, to the infirm, to the unemployed – the list is almost endless. It is outside the scope of a scientific work to pass judgment on these measures from the overall standpoint. Some of them have non-economic aspects that far outweigh the purely economic considerations. But all of them should be judged on the basis of these outside merits, as *none of the subsidy programs benefits the general economy.* None of them contributes toward increasing production volume or toward business stabilization, hence they do not help to maintain or restore prosperity.

If the citizens of the nation clearly understand that the only effect of such a program is to take income away from the general public and give

it to the favored group, and they are willing to approve the program on that basis, there can be no *economic* objection to such action. But the attempts that are being made to promote such programs as measures that will benefit the economy as a whole, that will "provide purchasing power with which to buy the products of American industry" are misrepresentations of the worst kind. Any purchasing power that is provided by these subsidies can come only from one source – the pocketbooks of those who are not subsidized. If it is not taken from them by taxation it will be taken just as surely by inflation.

The underlying reason for all economic activity, without which the branch of knowledge that we call economics would not exist at all, is the "work or starve" order to which the human race has been subjected by a higher authority than Congress or Parliament, and from which there is no appeal. Based as it is on this harsh and inflexible edict, factual economics in its entirety is cold and inhuman – not antagonistic to human wishes and desires but, like factual science, completely indifferent to them. It makes no difference if our motives are highly commendable, or if the objectives that we are attempting to reach are above reproach; we either comply with the natural laws, however distasteful they may be in some instances, or we go down to certain failure.

It would indeed be an easier world to live in if the day dreams conjured up from the fertile imaginations of our wishful thinkers would actually work. How pleasant it would be if we could solve all of our economic problems just by raising wages and lowering prices. And think of the headaches that would be avoided if we could make the nation prosperous by the simple expedient of subsidizing everyone, or if we could spend ourselves into affluence.

But such dreams come true only in fairyland. In the cold practical world where we live and go about our daily tasks in the shadow of the "work or starve" decree, there is no something for nothing. No matter how cleverly the true effects of these subsidy programs may be concealed, the general public has to pay the bills simply because the burden cannot be unloaded onto anyone else. In order to make any actual progress toward solving our economic problems, we must come down out of the clouds, abandon the "something for nothing" illusion, and base our corrective measures on solid economic ground.

## Conclusions

Almost all of the expedients discussed in this chapter have been tried out at one time or another, a few of them in a modest way, most of them on a massive scale during the depression years of the thirties under the auspices of the so-called New Deal. It is a tribute to the zeal, if not to the judgment, of the guiding spirits of the New Deal administration that two out of every three of the worthless schemes that have been discussed so far were included in their assortment of depression killers. Not all variations of each plan have been tried, of course, as the number of versions is almost unlimited, and there is always a loophole for diehard enthusiasts to claim that the failure of their pet program was due to the omission of essential details or to faulty administration, rather than to inherent defects. The fact remains, however, that in one way or another all of these schemes have been weighed in the balance and found wanting.

The analysis in the foregoing pages shows that the failures were not due to administrative errors or chance misfortunes; they were due to the basic inability of these plans to exert any forces tending to correct the purchasing power unbalance that was responsible for the depression. All of these plans were evaluated by means of the same yardstick: the principles and relations developed in the earlier chapters. The correlation between the theoretical appraisal and the results actually attained in practice thus serves not only to eliminate the possibility that the failure of some one of more of the plans may have been accidental rather than inevitable, but also accomplishes the purpose which constitutes the principal reason for discussing these worthless plans in this work: a demonstration that evaluations made on the basis of these theoretical principles do coincide with experience, and that economic science can explain why these measures failed. Ability to identify the reasons for the failure of unsuccessful programs is, of course, a strong indication of the existence of a similar ability to identify the necessary features that a program must have in order to be successful. In the physical situation it is easy to see that this problem of controlling the humidity by varying the temperature would be absurd. When the room is cold and clammy, an increase in the temperature is quite

appropriate, since this brings both temperature and humidity into the desired range, but applying the same corrective in a hot and humid situation would create a high temperature problem worse than the humidity. In this case it is obvious that although humidity can be controlled by regulating the temperature, this is a very poor way of accomplishing the desired result. The efficient and effective method is to keep the temperature at a comfortable level, and to control the humidity independently by adding or withdrawing moisture.

Similarly, in the economic situation we can reduce unemployment by means of money inflation, but here again this is a very poor way of accomplishing our purpose, as money inflation has some very undesirable effects. Furthermore, an inflation of this nature must inevitably be followed sooner or later by deflation, so that in the long run the beneficial effect on employment will be nullified.. As in the physical situation, the efficient and effective procedure is to set up two separate controls, maintaining market prices at the equilibrium level by stabilizing the flow in the money purchasing power stream, and controlling employment independently by purely employment measures.

## CHAPTER 23

# Boom Dampeners

In some respects, the problems involved in setting up a control over the economic mechanism are similar to those encountered in heating a building. Perhaps when we start to survey the heating problem we will find that our walls are thin, the doors and windows are loosely fitted, and an undue proportion of our heat escapes through the ceiling. We could still do a reasonably good job of heating if we install a large enough furnace, but under the circumstances it may very well be desirable to put on some additional side sheeting, weatherstrip the doors and windows, and invest in some insulation. This will cut down the load on the heating system, and will simplify the adjustment of temperature in different parts of the building.

Similarly, we could go ahead, on the basis of the information as to how the economic system operates that has been set forth in the preceding pages, and devise a set of controls that will handle the business cycles just as we find them, and if our program is sound and our control facilities are sufficiently powerful the results will be satisfactory. But here, again, we can simplify our problem quite materially by first taking some steps to plug the worst holes and dampen the cyclical movements to keep them within reasonable limits. This will reduce the task of the control system, and will enable the use of milder methods of control than would otherwise be required. It will be important, however, to make certain that the dampeners that are utilized are actually capable of accomplishing the desired results, and that they do not have any detrimental collateral effects on the economic situation. The various measures of this type that have heretofore been proposed, or are suggested by the results of the present analysis, will now be taken up individually and analyzed from these standpoints.

We have found in our analysis that the business cycle is simply an alternation of money inflation and deflation, unemployment being only a conspicuous side effect with no necessary or direct relation to the cycle. It therefore follows that the measures appropriate for the control of the business cycle are not those which deal with employment, but those which deal with money inflation.

Proposals aimed at countering inflation have been advanced in great numbers since this problem first became a matter of general concern, but most of them are merely variations of a few basic types of action. These proposals can be grouped into two general classes. In the first class are those which, if each operates as effectively as anticipated by its advocates, will be sufficiently powerful and sufficiently responsive to purposeful manipulation to actually control the cycle. These will be discussed in Chapters 24 and 25. The second category, the one to which this chapter is devoted, can be further subdivided into two groups: (1) measures which are wholly ineffective, and (2) measures which have some anti-inflationary effect (or inflationary effect, if they are operated in reverse) and which therefore serve the purpose of dampening the cyclical fluctuations if they are properly applied, but which do not qualify as controls, generally because they do not have any direct and certain connection with the flow of purchasing power. We will begin by considering group (1), the ineffective measures.

## Restraint and self-discipline

The call for restraint and self-discipline on the part of individual citizens and economic groups which comes so frequently from public officials-the "jawbone technique," as it is often called-is nothing more than a gesture. If adequate methods of control are put into effect, such self-denying policies are unnecessary; if no controls are applied all attempts to deal with the cycle by means of "restraint," etc., are futile. The two actions that provoke most of the calls for restraint, price increases by business firms, and demands for wage increases by labor unions, have no effect on the business cycle, as individual price increases do not change the general price level, and wage increases inflate prices equally at the two ends of the economic mechanism.

## Increased productivity

Lowering costs by increasing productivity is just as ineffective in counteracting money inflation as blocking price or wage increases, but here again, the economic profession is prevented from recognizing the true situation by reason of their repudiation of Say's Law. Without the benefit of this important principle they are unable to see that any change in production price, whether it be upward or downward, is promptly reflected in market price, and therefore has no effect on the type of inflation that is responsible for the business cycle. Myrdal, for example, contended that "higher capacity utilization, following a more rapid growth, will tend to lower costs, which should counteract inflationary tendencies."[182] Of course, higher productivity is a desirable end in itself, and it tends to offset some of the price effects of wage increases, but it has no bearing at all on the type of inflation we are now discussing. It therefore contributes nothing toward the business stabilization that we want to accomplish.

## Investment control

Proposals which are based on erroneous economic theories are equally futile. Prominent in this category, especially because of its status as one of Keynes' principal conclusions, is the belief that the level of business activity and employment can be manipulated by controlling the volume of investment. The supporters of this proposal have convinced themselves that the level of investment is the key to the business situation. "The main topic in the theory of the business cycle," says R. C. O. Matthews, "is the explanation of fluctuations in investment,"[183] and one of the suggestions included in the anti-inflation ideas advanced after the 1930s experience was to "reduce the volume of industrial spending for capital goods."

The fallacy underlying this line of thought has already been pointed out in detail, and for present purposes it should be sufficient to reemphasize the fact that all goods are alike, so far as the general operation of the economic mechanism is concerned. Shifting purchases from capital goods to consumer goods or vice versa has no more effect on inflation of the general price level than buying margarine instead of butter.

## Control of the volume of money

As might be expected from the widespread adherence to some kind of a quantity theory of money, the idea of controlling money volume as a means of regulating the business cycle has a great deal of support, and this idea is prominent in the background of much of the manipulation that is currently being undertaken by the monetary authorities. In view of the confused and contradictory status of the quantity theory, no one seems to have a very clear picture of just what this manipulation is supposed to accomplish, and the only thing on which practically all of those concerned are agreed is that something better than the present system ought to be devised. "Two kinds of suggestions, pointing in different directions, for reducing the possibility of error in a stabilizing money policy are now current," Stein and Denison said in a 1960 report. "One would prescribe a rule requiring that the supply of money grow at a steady rate, year in and year out. The other would ask the monetary authorities to base their actions more on their forecast of the future and less on present conditions."[184]

The foggy state of thinking on this subject is demonstrated by the comments that follow the foregoing statement: "Each of these suggestions has some attraction, but it is not clear that either would yield better results than recent practice. Probably the most one can hope is that the increase of economic knowledge, through research and experience, will permit improvement of monetary policy."

Whenever the specialists in any branch of knowledge overcome their strong reluctance to admit ignorance, and concede that they will have to wait for an "increase of knowledge" before they can suggest how to improve existing conditions, it is evident that current thought is in a bad state of confusion. In the light of the facts brought out in the preceding pages-the "increase in knowledge" achieved by the use of scientific methods-the reason for the confusion is obvious. It is not possible to arrive at any clear idea as to how the business cycle can be controlled by managing the money supply when, in reality, the quantity of money in the system has no effect on the cycle (Principle XV). The method of increasing or decreasing the money supply may have an effect, but this is an entirely independent consideration. The actual quantity of money in existence at any particular time is completely irrelevant.

## Managed currency

In addition to the proposals which contemplate manipulating the quantity of money for control purposes, there are others which envision manipulation of the value of the currency. As usual, the advocates of such plans are divided as to what direction the control measures should take, and we find two different groups proposing to reach the same objective by diametrically opposite routes. One group takes the stand that the money values should be made more flexible and subject to more frequent adjustment The adherents of this school of thought had an opportunity to see their program actually put into operation in the United States. In 1933, largely as a result of advice from Professor G. F. Warren, the administration increased the legal price of gold to $35 per ounce from the long-standing value of $20.67. The avowed object of the move was to devalue the currency and thereby raise the general price level. By its advocates it was conceived as the first of a continuous series of adjustments that would stabilize prices by juggling currency values. The President, with his usual buoyant faith in his convictions of the moment, flatly proclaimed it as a permanent policy and the first step toward a managed currency.[185] But, as in so many other "New Deal" experiments, actual results did not conform to the rosy expectations, and the presidential powers of "managing" the currency have not been exercised since the first attempt.

The reason for the failure of this program to accomplish its objectives is not hard to find. So far as the domestic economy is concerned, the goods price level at any particular stage of the business cycle is not determined by the official price of gold but by the cost of production of goods, which, in turn, depends mainly on the wage rate per unit of output. If the average wage rate prior to devaluation was dollars (20.67 standard), and the average goods price level was dollars (20.67 standard), then the devaluation reduced the wage rate to x dollars (35.00 standard). But the goods price level did not remain unchanged, as expected by the Warren group. As required by the General Economic Equation, it had to fall to y dollars (35.00 standard) to maintain the equilibrium between production price and market price. From the standpoint of the consumers, no change at all had occurred.

If everything had remained unchanged in the rest of the world, the net effect would have been a devaluation of the dollar in foreign exchange. But the foreign currencies would then have been grossly undervalued with respect to the true value of the dollar (its buying power), since the dollar was not overvalued to begin with. This would have created an intolerable trade situation. The foreign governments therefore accommodated themselves to the American action by altering their own gold prices. Within a short time everything was back where it started, except that the world-wide price of monetary gold was higher, an increase that had no economic significance, since, as pointed out in Chapter 15, the price of gold is now arbitrary.

The prices of some commodities are determined in the international markets, and during the interim period before the necessary adjustments were completed there was some increase in the prices of these commodities. The general belief in economic circles was (and still is) that an increase in the price of some goods has a tendency to be communicated to others, and thus exerts an influence toward raising the prices of all goods. It was therefore thought that these price increases in the goods affected by the international markets would cause a rise in the domestic price level. But the rise never materialized.

The analysis of the economic system in terms of purchasing power shows that the expected result is impossible. As long as the average wage rate in terms of U.S. currency is not altered, any rise in the price of one commodity must result in a decrease in the average of all other prices, not an increase, inasmuch as a constant wage rate under the short-term condition of unchanged productivity means a constant total money purchasing power. When production volume and total money purchasing power remain constant, average market price, the quotient of these two quantities, also remains constant, and any increases in the prices of individual items must be counterbalanced by corresponding decreases in the prices of other items. The actual experience with devaluation in terms of gold, which was so contrary to what its sponsors expected, was therefore exactly in accord with what the theory outlined in the earlier pages of this work predicts.

## Return to the gold standard

There is still a substantial amount of support, particularly among politicians and "supply side" economists, for a return to the gold standard. This just the reverse of what the "managed currency" advocates want to do; it is a return to a more rigid monetary standard rather than a change to a more flexible one. As brought out in Chapter 15, however, the gold standard has no significance in application to one nation alone, and it is no longer possible for more than one nation to maintain free convertibility at fixed rates. As matters now stand, therefore, the suggestion of a return to the gold standard is only a nostalgic dream.

## One Hundred Percent Bank Reserves

Another proposal is based on the assumption that bank credit is the cause of economic instability. It proposes to eliminate inflationary bank credit by requiring the banks to maintain one hundred percent reserves against demand deposits at all times. The objective of this plan, says R. P. Kent, "is to strip the commercial banks of their power of money creation. With such a plan in effect, the monetary authorities would have direct and complete power to determine what changes in the volume of money should be permitted; for the commercial banks would no longer be able to "blow up' a dollar of reserves into several dollars of deposit money."[186]

As explained in Chapter 15, the pyramiding of credit that this plan is intended to prevent is wholly illusory. The reserves can be "blown up" into demand deposits, to be sure, but this means nothing, as the economic effect of the loans that create the deposits is opposite to that of the deposit, and these effects cancel each other. The bank-created deposits disappear if an attempt is made to use them. Demands made upon them must be met by money withdrawn from the bank reserves, or obtained from outside sources. The objective at which the one hundred percent reserve plan is aiming is thus in operation already. Only the monetary authorities (in the United States, the Federal Reserve system), can issue new money.

## Discussion

The failure of the attempts that have thus far been made to control the business cycle, and the general realization that, for all we know, and despite all of the optimistic pronouncements to the contrary, another Great Depression may strike at any moment, has inevitably led to doubts as to whether economic stability is possible at all under our present economic organization. Comments along this line have been remarkably similar over a long period of time. Frank H. Knight (1953) took a pessimistic view. The business cycle, he said, "is extremely hard to deal with-probably impossible to correct adequately-without destroying the essential freedoms of economic life, for the ordinary citizen as well as for business itself."[187] Thorp and Quandt (1959) questioned both the competence of the controllers and the adequacy of their tools. "The first question that arises is whether or not any men or institution can have enough economic knowledge and wisdom so that there is a strong probability that they will do more good than harm. Secondly, are the instruments which are available to them such as to be effective.?"[188]

This work answers both of Thorp and Quandt's questions in the affirmative. A systematic analysis of economic processes has revealed the precise cause of economic fluctuations, and once the cause is known, the nature of the remedy becomes obvious. It remains only to devise, or to select from among those already available, effective measures of this nature that will accomplish the objective without undesirable collateral effects. All of the proposals discussed in Chapter 22 and the preceding portions of this chapter are completely worthless for control purposes. Taken in conjunction with the fact that none of the measures thus far tried has achieved any significant degree of control of the cycle, this may give the impression that the skepticism expressed by the economists quoted in the preceding paragraph is well founded. But the truth is that adequate tools for the purpose are readily available once we recognize exactly what we want to accomplish, and have the criteria by which we are able to determine what actions will contribute toward that end. At this point we will proceed with a discussion of the proposals of Group Two: those which actually are of some value in a control program,

because they have some effect in reducing the amplitude of the cyclical fluctuations.

## Curtailment of speculative credit

"Since 1933 the Federal Reserve has been directed by law to restrain the undue use of bank credit for speculation in securities, real estate, or commodities."[189] The principal instrument now utilized for this purpose is the power to change the margin requirements on security purchases. When market prices are below normal levels the margin requirements are lowered, making it easier to buy. When prices go up the margins are raised, decreasing the ability of the speculators to pyramid large holdings on inadequate equity foundations. This program has a definite value as a means of reducing economic fluctuations. In fact, the choking of an incipient speculative boom may very well serve to prevent a major disturbance of general credit conditions. Margin control should therefore be listed as one of the desirable components of a well-rounded stabilization program.

## Relating margin requirement to earnings

One of the objections to the control of the security market by raising and lowering margin requirements in the manner in which this is now done is the human element involved in making the decisions as to when action should be taken and as to the magnitude of the change. Perhaps action may be taken at the wrong time, or delayed until it is ineffective. There is more than a suspicion that some of the credit control measures taken prior to the 1928-29 boom were just the opposite of what should have been done. It is also true that this method of regulation necessarily involves proceeding by a succession of jumps rather than operating smoothly and unobtrusively as an ideal control would do. It would clearly add much to the effectiveness of the control if it could be made automatic rather than depending on human judgment.

In recognition of these facts it has been proposed that the margin requirements be based on average corporate earnings rather than on arbitrary Federal Reserve policies.190 Although there are some rather obvious difficulties involved in putting such a plan into

operation, the idea does seem to have considerable merit, particularly in connection with a complete economic stabilization program such as that which will be developed in the subsequent pages. Such a full-scale program will tend to stabilize corporate earnings to a substantial degree, and will avoid many of the complications that might be encountered in applying the plan under present conditions where earnings are so highly volatile.

## Relating margin requirements to the long-term price trend

A modification of the foregoing proposal that should make the control operation smoother and less open to objections would base the margin requirements on the relation of current prices to the long-term trend. It is unsound policy to permit borrowing on values in excess of this long term trend, values that as a whole are purely fictitious and will disappear as soon as any economic stress develops, putting the general credit structure into a vulnerable position. At the peak of the 1929 boom the long term trend of common stock prices on the New York Stock Exchange, in terms of the most commonly quoted price index, was in the neighborhood of 100. If the margin requirement were 50 percent, the loan value would have been about 50. Actually the average price in the market at that time was around 220 instead of 100. The additional 120 was a fictitious value created by speculation, not a real value, and the lending of anything more than 50 on a market valuation of 220 was unsound finance, as the aftermath definitely proved. In order to maintain the 50 percent margin on a real value basis, the legal margin at the peak should have been nearly 80 percent.

Some recognition is already being given to these points. The Federal Reserve explains that "modern supervisory appraisal of bank assets emphasizes sustainable banking values rather than current market values. In this way bank supervisory authorities and examiners try to exclude from bank asset valuation the transitory influences associated with economic fluctuations."[191] Present-day margin requirements are clearly more realistic than those which prevailed prior to 1930. However, the situation will never be fully satisfactory

as long as the control over the valuation is merely something that the authorities "try" to exercise in an unsystematic way. The undesirable aspects of present practice will be fully overcome only when the valuation for lending purposes is put on a definite and specific basis that eliminates human judgment.

The desirability of strict control over the speculative use of credit is particularly indicated by the point brought out in Principle XIII, the fact that increases in the prices of securities, real estate, and other capital assets already in the hands of consumers finance themselves, and hence such prices can gyrate wildly up and down without any regard for realities, as far as the original enthusiasm or the subsequent pessimism of the speculators can overcome good judgment. In lending on the strength of speculative value increases, bankers are filling their vaults with nothing more substantial than dreams.

A particularly attractive feature of the proposed automatic system of margin control is that it can also be applied to the making of loans on real estate security by banks and other lending institutions subject to government supervision. Much of our present trouble originates from fluctuating real estate values, and in some respects this is more serious than the stock market situation. On the whole, the losses in stock market operations are borne by those who can absorb them without undue personal hardship, but the worker who loses his home because inflated values are punctured has suffered a real catastrophe, and it is not surprising that he should thereafter lend a ready ear to the political and economic extremist. There can be a certain amount of variation even on a cash basis, but there is no question as to the responsibility of credit for the major swings. Prohibition of loans exceeding a specified percentage of the valuation adjusted to the long term trend would have a definite stabilizing effect.

There will no doubt be some criticism of this idea on the ground that it will make the acquisition of a home very difficult when prices are high, but the obvious answer is that such purchases should be curtailed when prices are abnormally high. The individual who has to wait until prices come back to normal levels will be well compensated for the waiting by getting his house for a more reasonable price.

## Adjusting credit to the business level

It has been suggested that stabilization of business activity could be accomplished, at least in part, by limiting the amount of increase in credit to conform to the long term trend of increase in business volume. The advocates of this measure point out that the annual increase in business is in the neighborhood of four to five percent, and that whenever the increase in credit exceeds this percentage by any substantial amount a speculative boom develops, ultimately terminating in some kind of collapse.

This idea of credit limitation is entirely in line with the principles developed herein, which show that credit is one of the important causes of variations in economic activity, but it does have some serious weaknesses. If the limitation is to be effective it cannot have any significant amount of flexibility, and this may seriously handicap the banking system in its task of taking care of short term fluctuations. Furthermore, it does not have the direct connection with the flow of purchasing power that is essential to get prompt and certain results from application of the controls. We therefore cannot count on credit policies as full-scale economic control measures, but there are some kinds of credit control which can profitably be used for the purpose now under consideration: that of dampening the cyclical swings. In the United States such controls are exercised mainly by the Federal Reserve System, and it is significant that the governors of that system are confident that their actions are actually contributing to the stabilization of the economy. The following is a quotation from one of their official publications:

> Federal Reserve influence on the flow of bank credit and money affects decisions to lend, spend, and save throughout the economy. Reserve banking policy thus contributes to stable economic progress.[192]

## Restriction of consumer credit

Consumers utilize short-term credit principally for the purchase of durable goods and financing improvements of property, and utilize long-term credit mostly for financing construction or purchase of homes. These requirements are not very sensitive to minor changes in the interest rate, and the available tools of the banking system

are therefore relatively inefficient in controlling the volume of this kind of credit. When some curtailment is advisable, as in wartime, it is usually necessary to resort to some direct prohibition such as that contained in Regulation W, issued during World War II. Such restrictions on individual freedom of action are highly unpopular, and it is quite unlikely that any program designed to operate through the medium of direct consumer credit control would have enough popular support to make it feasible, even it it did theoretically have some good features. Borrowing for business purposes, on the other hand, is usually an unemotional transaction, and it is also much more sensitive to changes in the interest rate and in the ease with which credit can be obtained. It is therefore more amenable to purposeful control. All of the credit control measures that will be discussed in the subsequent pages are aimed primarily at influencing the amount of business borrowing.

## Manipulation of the rediscount rate

Considerable experience has been gained with the use of the Federal Reserve rediscount rate as a means of controlling credit. By law the Federal Reserve Board has been given the power to raise or lower the rate charged the member banks for money which they secure by "rediscounting" eligible paper at the Federal Reserve banks. Inasmuch as this rediscount rate affects the cost of money to the banks, any change has an indirect effect on the interest rates charged by the banks and on their willingness to lend, and hence either encourages or discourages borrowing, depending on the nature of the change that is made.

The results that have been obtained by the use of this device indicate that it is effective to some degree in restricting credit during a boom, but does practically nothing toward increasing borrowing during a depression. The explanation is that the Federal Reserve has the upper hand during the boom. The member banks have already made loans to the extent of their own resources, and they cannot go any farther without rediscounting at the Federal Reserve Bank. On the other hand, the limit to borrowing during a depression, or even a recession of any consequence, results from a scarcity of would-be borrowers who have both the inclination to borrow and the

ability to meet the stringent collateral requirements that are imposed under these conditions. The member banks have plenty of excess reserves of their own to meet the needs of those borrowers whom they consider good risks, and the "easy credit" policy of the Federal Reserve System has little or no influence on the transactions.

The need for adjustments in the rediscount rate will be reduced to a minimum when measures of the type that will be discussed in Chapters 24 and 25 are put into effect for the purpose of an actual control of the business cycle, but if the Federal Reserve System is to retain its power to create new money, ability to adjust the rediscount rate would seem to be a desirable adjunct, as a means of exercising a certain amount of influence over the demand for this new money.

## Changing reserve requirements

Another credit control tool, made available to the Federal Reserve in 1933, is that of changing the legal reserve requirements of commercial banks. The action of this device is explained by the Federal Reserve as follows:

> Two things happen when required reserve percentages are changed. First, there is an immediate change in the liquid asset or secondary reserve position of member banks. If reserve percentages are raised, banks that do not have enough excess reserves to cover the increase in requirements must find additional reserve funds by selling liquid assets in the market or by borrowing from other banks or from the Reserve Banks...
>
> If reserve percentages are lowered, individual banks find themselves with a margin of excess reserves available for investment in earning assets and for debt repayment. Since banks maintain their earnings at the highest level consistent with solvency by keeping their own resources as fully invested as possible and by avoiding debt, their usual response to a lowering of reserve requirements, after retiring any indebtedness, is to acquire earning assets.[193]

In the terms of reference of this present work, all of the foregoing can be succinctly expressed by saying that the effect of varying the reserve percentages is to change the amount of money that the banks must keep in storage. As explained in Chapter 15, the significant quantity in banking practice, so far as the general operation of the economic system is concerned, is the size of the reserves: the

amount of money purchasing power actually held in storage in the banking reservoir. An increase in the reserve requirements means that the banks must keep more money in storage. If they do not have excess reserves they must take some action to curtail the amount of loans relative to deposits, thereby withdrawing money from the circulating purchasing power stream and diverting it to storage. A decrease in the reserve requirements enables them to draw money from storage and put it back into the active stream of purchasing power by increasing loans or purchasing securities.

A change in the reserve requirements is thus the kind of an action that is necessary in order to offset inflationary or deflationary trends, but here again the response to such changes is not specific enough to enable using this device as the primary control. Furthermore, there are practical obstacles that make the changes in reserve percentages "less flexible and continuously adaptable" than other "instruments of monetary management,"194 as the Federal Reserve System itself sees the picture. These changes are therefore useful more as an auxiliary control device than as an essential feature of the control mechanism.

## Foreign trade

The effects of foreign trade on the domestic price level and purchasing power flow were discussed in Chapters 16 and 17. No further comment is necessary at this time, except to say that in the overall control of the reservoir transactions any unbalace in foreign trade has the same effect, and must be treated in the same manner, as any other transaction affecting the money reservoirs.

## Discussion

As emphasized in the theoretical development, direct credit dealings play only a small part in the modern economy, and credit, from a functional standpoint, is primarily a means of making withdrawals from money storage. Bank depositors make both deposits and withdrawals, but there is a continuing excess of deposits, and the net result of the transactions between the bank and its depositors is that money goes into bank storage. Credit is a device whereby this money can be withdrawn from storage for use by other individuals

or agencies. Unfortunately, the inputs and the withdrawals do not always stay in balance. Quite the contrary, the normal tendency is toward an unbalance either in one direction or the other. When economic conditions are such that the consumers are inclined to be cautious and save rather than spend, thus increasing the amount of money available for lending, the borrowers have less opportunity for profitable use of the money, and they therefore reduce, rather than increase, their borrowings. Conversely, in those periods when the consumers are inclined to spend rather than save, the demand for loans is greater than normal. The result is that we experience an alternating cycle of inputs into money storage and withdrawals from that storage, part of the general phenomenon of the business cycle.

The credit control operations of the Federal Reserve System that have been discussed in the preceding pages are aimed an dampening these cyclical movements by restricting the amount of credit during the upswing and making it easier to obtain during the downswing. Experience has indicated that these operations do actually make some contribution toward their objective, but their usefulness is limited by the fact that they operate indirectly and hence their effect is somewhat uncertain.

In terms of the automobile analogy, we may say that we have here some devices that will turn the wheels of the car and thus change the direction of motion. But changing direction is not our objective; it is merely a means to an end. Our real objective is to stay on the road, and this requires much more than merely being able to turn the wheels. First, we must have some way of knowing where the road is, so that we will know exactly when and how much to change our course. Second, we must have a positive control system, so that we will know not only the kind of a response that the system will make to our control actions but also the magnitude, or at least the approximate magnitude, of the change that will result from a specific amount of application of the control system.

Keeping the economic machine on a smooth course requires economic information and facilities of an analogous nature, but existing economic theory and practice do not meet these requirements. There is no clear understanding, either among bankers

or among economists, as to where the smooth economic road is located. Consequently, when it becomes evident that the economy is in trouble because it is off course, no definite indicator is available to define the amount of change that will have to be made in order to get back on the road. Nor is there even any general agreement as to which direction the change should take. Almost every move that is made by the regulatory agencies comes under fire from some quarter. As expressed by Reynolds,

> The Federal Reserve Board will never win a popularity contest. It has the peculiar misfortune to come under attack from precisely opposite standpoints.[195]

This inability to chart a clear course, together with the fact that most of the tools available to the Federal Reserve and other government agencies lack the direct and positive connection with the business cycle that would produce just the right amount of movement even if those agencies had some reliable means of identifying the correct action, explains the erratic performance record of the credit control measures.

The significant accomplishment of the theoretical development in the earlier chapters, so far as the stabilization question is concerned, is the positive identification of the factor that determines the direction in which the cycle is moving, and the magnitude of the movement. From the facts brought out in this investigation it is now apparent that the presence of reservoirs in the circulating stream of money purchasing power is the key to the whole situation. Here is where the business cycle originates, and here is where it must be controlled, if the control is to be effective. By measuring the changes that take place in the levels of these reservoirs-something that can easily be done on a continuous basis-we can determine exactly what is currently happening, and by taking appropriate action on the basis of this information we can counterbalance any tendency to move away from the equilibrium condition, thus keeping the economy on a permanent even keel. The various practical methods of taking this appropriate action will be explored in the next two chapters.

## CHAPTER 24

# Stabilization Measures – I

As stated in the preceding chapter, the measures discussed therein are not of a character appropriate for a definite control of the business cycle. Those that are effective at all are merely methods of reducing the amplitude of the cyclical movements and thereby simplifying the subsequent problem of control. We will now turn our attention to the means available for actually governing the economic mechanism to stabilize the economy and eliminate the alternation of booms and recessions.

The first requisite for accurate analysis is that we must determine specifically just what it is that we want to stabilize. The average citizen undoubtedly feels that the establishment of a permanent high level of employment is the number one problem. In the preceding pages, however, it was demonstrated that the market price level is independent of the volume of production (Principle IX), and consequently the cyclical price movements will continue regardless of any action that may be taken with respect to maintaining a high level of employment. It was further shown that these price cycles are inevitably producers of unemployment (barring revolutionary changes in the prevailing attitude toward maintaining wage rates), and any stabilization of employment that might be accomplished would therefore be upset periodically by the business cycle unless some action is first taken to eliminate the cyclical price movements.

When stabilization of prices is mentioned, the assumption is usually made that the expression refers to something on the order of Irving Fisher's "commodity dollar." It was the contention of Fisher and his school of thought that the alternating high and low commodity prices that we seem to see in the commodity markets are merely an illusion; that in reality the commodity prices are stable, but the value of the currency varies. What appears to be a

price cycle is actually a money cycle, the great "money illusion," as Fisher called it.[196] So the commodity dollar advocates propose to cut the dollar loose from its traditional moorings and manipulate the money values in such a way as to keep the average price of a selected group of commodities at a predetermined level. The Goldsborough Bill introduced into Congress in 1922 was an organized attempt to establish the commodity dollar as a definite national policy.

The methods by which these results might be accomplished are not relevant to the present discussion. For the moment we are interested only in the question as to whether or not this kind of price stabilization, if successful in holding a fixed price level, will actually iron out the cyclical movements without any harmful collateral effects. It is apparent at the outset that Fisher's theory of the fluctuating value of money is erroneous. As demonstrated in the preceding pages, it is an unbalance between the rates of flow of money purchasing power and goods into the market that is responsible for the price changes originating in the markets (money inflation and deflation), not any actual variation in the value of either one or the other. Furthermore, it is clear from the facts brought out in the previous discussion that any arbitrary change in the wage or tax components of production price is promptly reflected in the market price level. In order to examine this situation more closely, let us go back to the General Economic Equation:

$$B/V = P$$

Assuming the commodity dollar plan to be in effect, what happens if the workers in several major industries secure wage increases? Production price now rises to fP, and the higher wages increase money purchasing power a corresponding amount to fB. Volume is, of course, unaffected, and the new production equation becomes

$$fB/V = fP$$

But when the increased money purchasing power fB reaches the markets and starts to raise prices, the deflationary methods of the price stabilization scheme come into play. If they work according to theory they bring the price level back to P, the "stable" level. The principles developed earlier show that this could only be done by some kind of an unbalancing reservoir transaction which

would withdraw money purchasing power from the stream going to the markets, reducing fB to B, but even without the benefit of this previous consideration, it is clear from the equation itself that no matter how fP is reduced to P, there must be a corresponding reduction from fB to B, as V remains constant.

The purchasing power flowing back to the producers from the markets is now only the amount represented by B, but the wage increase prevents restoration of the original relation B/V = P, and producers must cut the volume of production in order to adjust expenses to income. The attempt to maintain a fixed market price level in the face of higher production costs thus has exactly the same effect as a business depression, throttling industry and creating unemployment.

In this connection it is worth noting that if the "price control" measures that have so much support in some quarters were actually capable of holding the price level down, they would have the same effect as the "commodity dollar" program; that is, they would create an artificial business depression. The two programs are, in fact, merely different versions of the same thing.

It is apparent from the foregoing that the "commodity dollar" proposal is unsound. The desirable end is not stabilization of prices at any specific level, but the maintenance of an equilibrium between production price and market price. If production price rises because of wage increases or higher business taxes, market price must follow. Otherwise economic unbalance will be created where none existed before. Similarly, if production price falls because of technological improvements or other decreases in costs, market prices must not be prevented from taking a corresponding drop. Critics of the price stabilization proposals have recognized this flaw in the commodity dollar scheme, but they have not all realized that these defects do not invalidate the general idea of price stabilization. They merely indicate that the freezing of prices at any specific level is unsound, inasmuch as the system cannot remain in equilibrium unless market prices are left free to follow any changes that may occur at the production end of the mechanism.

The detailed analysis of the operation of the economic system in the earlier chapters shows very clearly that price changes originating at the production end of the mechanism have no unbalancing effect

on the general economy as long as the markets are allowed to adjust themselves to such changes. The fear of excessively high wages, or exorbitant profits, that has been expressed by so many economists is definitely unfounded, so far as any detrimental effect on the general business situation is concerned. Wage increases merely raise prices all the way around, increasing the money purchasing power available for buying goods by the same amount as the market price increase, so that the volume of production remains the same, and the ability of the consuming public as a whole to buy goods remains just where it was before the rise. Whatever losses may be sustained by certain individuals or groups are offset by corresponding gains to others (Principle XI). To the limited extent that deviations from the normal rates of profit are possible, the same is true of these changes.

On the other hand, price changes originating at the market end of the mechanism by reason of purchasing power reservoir transactions are the central factor in the business cycle, and they do have a very serious effect on the stability of economic life. Without such market-based price changes there would be no cyclical movement of the economy, and all of the objectionable side effects of the cycle would be avoided. It is therefore clear that prevention of these price fluctuations originating in the markets (maintenance of an equilibrium between market price and production price) is the form of stabilization that we want to accomplish.

This redefinition of the goal of the stabilization program makes it evident that there are better methods of handling the control operation than those that have heretofore been suggested. It would still be possible to work with index numbers if we wish to do so. An index of production prices could be compiled to serve the same purposes as the commodity price index, and the stabilization could be based on the ratio of the two indexes. But index numbers are unsatisfactory tools for accurate work, in spite of all of the ingenuity that has been employed in their construction. Price changes, like most other economic movements, are selective, and it is the general rule that the basic commodities, around which the index numbers are mainly compiled, because of the availability of more and better price and volume data, are the least responsive to influences tending toward change. Other large segments of the economy fluctuate much

more widely. Services, which represent a major and rapidly growing proportion of the total goods consumed in this country, are largely outside the realm of business statistics, and consequently they are not represented adequately in the standard index numbers. As the Department of Commerce admitted in the statement previously quoted, the indexes "do not include or make sufficient allowance for various intangibles."[150]

We can, however, avoid the necessity for dealing with uncertainties such as those involved in the use of index numbers by controlling the cause of market price level fluctuations rather than attempting to gear our control to the price changes themselves. As was brought out in the earlier discussions, market prices would mirror production prices, and there would be a smooth, stable flow of goods and of purchasing power, if it were not for the reservoirs along the line into which some of the purchasing power can be diverted, and from which at other times purchasing power can be drawn to swell the stream going to the markets. Unlike the determination of price levels, the measurement of changes in these money and credit reservoirs is relatively easy. Such measurements can be made and are regularly being made, with a high degree of accuracy. Furthermore, the measurements are simple enough that they can be kept up-to-date at all times. Most of the information that would be needed for control purposes is already available daily.

The transactions carried out by means of the purchasing power reservoirs play an important part in our modern economic life, and it would not be advisable to prohibit them., or to place unduly rigid restrictions on them. But this is not necessary for control purposes. We do not even need to deal with each one individually, other than to keep track of what is happening in each place. Since all purchasing power is alike from the standpoint of its economic function, we can eliminate market price level fluctuations by introducing compensatory transactions of the right magnitude and direction in any reservoir to cancel the net unbalancing effect of the transactions which are currently taking place in all of the money and credit reservoirs.

Since the data that show the condition of the reservoirs are complete and accurate, and can be kept current at all times, the regulation can take the form of a continuous series of minor actions, rather

than successive relatively drastic steps. Because of this advantage, plus the fact that only the net excess of transactions one way or the other needs to be neutralized, the control measures can be mild and unobtrusive, particularly if provision is made for curbing speculative excesses, as suggested in the preceding chapter.

Before taking up a consideration of the various practical programs that have been proposed for the purpose of governing the flow in and out of the money and credit reservoirs (proposals that have been made in other language, as the reservoir concept herein developed has not hitherto been recognized in its true light), it will be advisable to take a brief look at the suggestion that we should meet the situation at the opposite end of the economic mechanism; that is, by controlling production or by storage of products, rather than by controlling storage of the circulating medium.

An example of this type of approach is a plan proposed by Benjamin Graham during the depression of the thirties that envisions the stabilization of prices by the storage of a selected group of durable commodities under government auspices, and the unlimited privilege of exchange of money for these commodities, and vice versa, at a fixed rate (in units made up of a specified quantity of each commodity).197 The theory is that when the market price of these commodities falls below the established standard there would be an advantage is selling to the government storage agency, and enough of the supply would thus be withdrawn from the market to bring prices back to normal. When market prices rise above the standard enough would be bought from the government agency instead of through the markets to cause a lowering of the market price. The expectation is that the stabilizing of the prices of these commodities would exert a stabilizing effect on the market price level as a whole.

We have found that control of the business cycle requires maintaining a constant relation between the flow of goods and the flow of money purchasing power, The control can theoretically be exercised over either of these flows. Graham's plan attacks the problem by setting up a control over goods market volume rather than over purchasing power. But storage of goods in the required amounts is out of the question. Commodity storage practiced on the

small scale contemplated in the Graham plan would merely shift the price instability from the stored commodities to all other goods. In order to stabilize the prices of goods-in-general by this means it would be necessary to provide goods storage sufficient to balance the net excess of transactions into or out of the purchasing power reservoirs. This would involve storing billions of dollars worth of goods, and is clearly impractical.

Furthermore, this plan, like so many other proposals for economic control, applies the regulation in the wrong place. Price stabilization is not an end in itself; it is only sought as a means of stabilizing business activity, consumption, and employment. Even if it were feasible to apply this storage plan on such a huge scale that price stability could actually be achieved by this means, this would not solve the problem at which it is really aimed. It would create the kind of instability that we are trying to eliminate, as it would introduce variations into the flow of goods that did not previously exist.

While this plan gained some attention during the depression of the thirties, when the authorities were desperate for some kind of an answer to the problem, it was quickly dropped when the depression experience was subjected to more critical examination after the emergency was over. This was, of course, a reflection of the fact that the shortcomings of the plan had already become apparent to those who studied the situation carefully. It has, however, been necessary to give the subject some consideration here in order to complete the theoretical picture of the possible methods of control, and also to lay the groundwork for discussion of a different kind of manipulation of the goods reservoirs that we will take up in the next chapter.

The post-depression review did include consideration of the following suggestion: "Increase production to match the 'excessive' supply of money." The thought here is that since money inflation is due to the availability of too much money purchasing power relative to the volume of goods currently produced, the remedy is to increase the volume of goods to an equality with the amount of money purchasing power. If the volume of goods could be increased independently of the purchasing power, this idea might have some merit, but, as has been emphasized repeatedly in the preceding pages,

it is impossible to produce goods without at the same time and by the same act producing an equal amount of purchasing power. An unbalanced excess of money purchasing power therefore cannot be corrected by increasing production.

Another variation of the production control idea is based on the "overproduction" theory of the business cycle, which was widely accepted during the depression era of the thirties. This theory contends that we are producing too much during the boom periods, and that the depression or recession comes about because of the necessity for cutting down production to enable using up the accumulated surpluses. The proposed control system therefore contemplates reducing the volume of production during the inflationary phase of the cycle, and assumes that this reduction will automatically result in an increased amount of production during the low stages of the cycle.

The falsity of the assumptions on which the overproduction theory is based is now generally recognized, and for present purposes it should be sufficient to say that the business cycle is a result of totally different causes. Whatever variation in production takes place during the successive phases of the cycle is an *effect* of the cyclical variation, not the *cause* thereof.

Thus *all* of the proposals that envision economic stabilization by storage of goods or regulation of the volume of production are inherently unsatisfactory. Even those proposals that are theoretically feasible are unworkable in practice, due to the physical limitations on the possibility of goods storage. Furthermore, the method by which the control is supposed to be exercised is objectionable per se. Maintenance of a steady flow of goods to the consumers is one of the prime objectives of economic policy, and any measure which aims to achieve business stability by introducing arbitrary irregularities into the flow of goods is prescribing a cure which may be as bad as the disease. The economic unbalance that causes the cyclical swings can be corrected only by attacking it where it originates: in the money purchasing power stream flowing to the markets.

Some of the measures discussed in the preceding chapter were aimed in this correct direction, but these measures fail to qualify as effective control devices primarily because they operate indirectly,

and hence do not have the positive and certain effect that is necessary for accurate control. Restriction of credit, for example, tends to discourage withdrawals from the money reservoirs, but there is no direct relationship. We cannot say that an increase of x percent in the rediscount rate will reduce the use of credit by y percent. What we need is a mechanism that does have this kind of a direct connection. If our reports indicate that the reservoir withdrawals are currently exceeding inputs by a million dollars per day, then for positive control of the situation we need a direct mechanism whereby we can divert a million dollars per day from the swollen money purchasing power stream until the excess withdrawals from the consumer reservoirs cease.

The most obvious means of accomplishing this objective is to utilize government fiscal policy. The government is continually receiving a large inflow of money from taxation and other sources, and there is a corresponding outflow of similar proportions. On the average these two streams are equal, unless the government has deliberately embarked on an inflationary course, but there is no requirement that a *continuing* equilibrium be maintained, and at any particular time there is usually a net excess either of receipts or of expenditures. Such an excess constitutes an input into or a withdrawal from a purchasing power reservoir, and these reservoir transactions have exactly the same effect on economic equilibrium as transactions of equal magnitude in the private sector. Since the government transactions are subject to deliberate control, if control seems advisable, we have here the kind of a direct and positive mechanism that we need for the purpose of offsetting the fluctuations in the flow into and out of other purchasing power reservoirs.

A general recognition of the potential of government financial dealings as a means of control of the level of business activity has been achieved in the last few decades, and "compensatory fiscal policy" currently receives widespread support, at least in principle. Unfortunately, however, present-day economic thought fails to distinguish between the problem of economic stability and the employment problem. As a result, fiscal policy is not primarily utilized, or advocated, for the purpose of maintaining a stable level of prices and business activity, an objective to which it is well

adapted, but for the purpose of minimizing unemployment, an objective toward which it can make no more than a temporary and uncertain contribution, and this only at a rather high cost in the form of inflation.

This subject was given a great deal of attention in the era following the 1930 depression. Arthur Smithies gave this report as of 1948:

> The idea of a government commitment to maintain full employment through fiscal policy became widely accepted... The Employment Act of 1946 in this country originated as a proposal to achieve full employment through fiscal policy alone.[198]

But a commitment to do something means nothing at all unless that something can be done, and the fact that unemployment is still our most critical domestic problem emphasizes this point. Disappointing results are inevitable as long as fiscal policy is directed toward the wrong objective.

Many of the economists who analyzed the position of economic theory in the post-depression review mentioned earlier were uneasy about the relation between employment and inflation. "It is possible." reported Thorp and Quandt (1959) "that monetary policy... may create a conflict between two ultimate objectives of society: namely between full employment and price stability,"[200] and Smithies admitted that "we have as yet no answer to our main question of fiscal policy: is it possible to prevent inflation and achieve maximum production at the same time?"[199] Over the next few years Keynes and his disciples gave an "authoritative" negative answer to this question, as indicated in the following statement:

> With remarkable prescience, both Keynes and Mrs. Robinson foresaw in the prewar period the dilemma facing most western nations today: the impossibility of achieving simultaneously, and without price or wage controls, the twin goals of full employment and price stability.[79]

In the absence of any contradictory experience, or new theoretical understanding, the existence of this "dilemma" is accepted by modern economists of all schools of thought, as noted in the discussion in Chapter 2. Notwithstanding the near unanimity of this opinion, it is definitely wrong. Coexistence of full employment and zero inflation is not impossible. What is impossible is to attain both goals by means of the same measure, as the monetary authorities,

following the advice of the economists, have been trying to do. There is no common solution for both problems. But, as has been explained in the preceding pages, both goals can be reached if they are approached separately, each by the methods appropriate for that problem. What is necessary to recognize is that monetary and fiscal measures are *stabilization* tools, not *employment* tools, and they should be used, when and as needed, for stabilization purposes only, leaving the employment situation for treatment by measures specifically adapted to employment.

In undertaking an analysis of the practical methods that are available for applying fiscal policy to the stabilization program, it should be emphasized at the outset that the objective to be accomplished by a stabilization program, as we have identified it in the foregoing pages, is to counterbalance the net excess of money purchasing power reservoir transactions, whatever direction and magnitude that net excess may take. Thus the effectiveness of any specific measure is determined by the extent to which it contributes toward this objective, and any merit that it may have from some other standpoint is irrelevant. A measure that increases production, for example, may be quite helpful in relieving distress during a depression, but production adds equally to the stream of goods and the stream of purchasing power, and therefore accomplishes nothing toward correcting the purchasing power unbalance that causes the depression. Such a measure has no value for stabilization purposes, however useful it may be in other respects.

The same is true, in large part, of most of the so-called "built-in stabilizers" which are so widely hailed as bulwarks of the present-day economy. "Unemployment insurance," says Arthur F. Burns, "is the nation's first line of defense against depressions. When business activity falls off, the payment of insurance benefits promptly rises and this offsets in part the decline of income from productive employment."[201] Galbraith views the situation in these terms: "Unemployment insurance means that a man's purchasing power is protected when he loses his job. It falls, but no longer to zero. Thus a measure designed to reduce the insecurity associated with unemployment also acts to counteract the loss of output-the economic inefficiency-associated with depression."[202]

Now let us analyze these transactions from the purchasing power standpoint and see whether these confident expectations are justified; whether unemployment insurance actually makes any contribution toward correcting the purchasing power unbalance that is the root of the trouble. This is not an inquiry as to whether or not such insurance is justified. As Galbraith pointed out, this measure is "designed to reduce the insecurity associated with unemployment," and the justification for putting it into effect rests upon these grounds. But both Burns and Galbraith claim that it is also an anti-depression measure, and it is this claim that we want to examine.

As matters now stand, if a recession gets under way, the volume of unemployment increases. Payment of unemployment benefits then rises. If the funds for making such payments are obtained by withdrawal of money from storage, the rising payments would swell the money purchasing power stream, and would actually have the kind of a compensating effect that is necessary to offset the deflationary consumer reservoir transactions. But the unemployment funds are not normally held in cash by the state agencies that handle the payments; they are either invested in securities or are deposited in the banks. In order to convert the securities into cash they must be sold. The amounts paid by the purchasers of these securities then decrease the money purchasing power available for buying goods-in-general by exactly the same amount that the purchasing power is increased by the unemployment benefits. The net effect on the economic unbalance is therefore zero.

Where the money is withdrawn from the banks rather than from investments, the final result is the same if the banks find it necessary to reduce their loans or investments in order to meet the demand for cash. No contribution toward stabilization is made unless (1) the banks happen to have excess reserves from which the funds can be obtained, or (2) the need for cash is met by new currency issued through the Federal Reserve rediscount procedure. The action of the built-in stabilizers is therefore very uncertain, and there is no assurance that the stabilizing effect will materialize at all.

A better case can be made out for those programs such as the income tax, which rises and falls in conformity with the general

state of business. Here again, however, the ultimate effect is dependent entirely on the means which are employed to meet the varying demands on the Treasury. If the loss in revenue due to a decrease in income tax collections is offset by inflationary means-by currency issues or by drawing upon bank reserves-and the same mechanisms are employed in reverse to dispose of excess collections during boom times, the stabilizing effect is actually realized. But if the losses in revenue in the downswing are offset by the sale of bonds to the general public, or by bank borrowing that results in the sale of securities or curtailment of loans by the banks, or by a reduction in government expenditures, the built-in stabilizers do not stabilize. During an upswing there is little possibility that these so-called stabilizers will accomplish anything at all, as higher tax receipts normally stimulate government expenditures, and even if the excess tax collections are not spent, they will have the required deflationary effect only if they add to bank reserves or are utilized to retire currency, neither of which is at all likely during a period of expanding business activity.

The same considerations apply with even greater force to similar "stabilizing' efforts by private business. Economists usually look with favor on these efforts. Most of them would probably agree with this statement: "The practice of accumulating reserves (by private enterprises) in prosperous times and disbursing them as dividends when current profits are low is all in the right direction."203 But such reserves contribute to stability only if they are maintained in the form of cash, and business concerns cannot afford to accept the penalty of loss of earning power that would result from carrying unnecessary cash balances, nor would they want to retain custody of such large amounts of cash if they did accumulate them. Any excess cash is deposited in the banks, and in a period of rising business activity the banks promptly turn around and lend the money to someone else.

The mere fact the business enterprises enter these amounts as "reserves" on their books means nothing from the standpoint of the economy in general. The money that they do not disburse is spent by others, and the end result is the same as if these firms has paid the dividends currently and thus permitted the stockholders

to spend the money. If the reserves are invested instead of being deposited in the banks, the purchasing power is simply transferred to the sellers of the securities. When these securities are sold during a recession to obtain funds with which to pay dividends, this process is reversed. The buyers of the securities transfer purchasing power to the business, which then turns it over to the stockholders. All of these transactions are exchanges at the same economic location, hence in each case the total amount of purchasing power available for the buying of goods remains exactly the same as it was to begin with (Principle XV).

The factors which make the stabilization efforts of the individual firms fruitless are inescapable from a practical standpoint, as the cost of maintaining large idle cash balances is prohibitive. However, the government is not limited in this manner, and it would be entirely feasible to handle government fiscal operations in a countercyclical manner, so that the inputs into or withdrawals from the government money reservoirs counterbalance the net total of the transactions affecting the other consumer money reservoirs.

Keynes' "deficit spending" policy, which has been the cornerstone of the U.S. government's countercyclical efforts since the depression days of the 1930s, is aimed in this direction. Just how to appraise the results of this policy has been a matter of much controversy. On the one hand, it is clear that the problem has not been solved. The admitted fact that the threat of recession, and perhaps depression as well, still hangs over us is positive proof of this. But it is also clear that the policy that has been followed has, on several occasions, injected a certain amount of life, or at least semblance of life, into the economic picture. As matters now stand, therefore, a continuation and extension of deficit spending is strongly advocated by one faction and bitterly opposed by another. Some of Keynes' disciples have even gone so far as to contend that it is no longer possible for a private enterprise economy to operate on a self-sustaining basis, and that a *permanent* deficit spending policy is essential to prevent utter collapse of the economic structure.[204]

For some reason, probably connected with their orientation toward sociological objectives, spending seems to have a peculiar fascination

for the economists. As Viner put it, "It must not be forgotten that spending in itself is for the spenders the supreme pleasure."206 It is common practice among the Keynesians to extol the merits of government spending and to minimize its disadvantages. "Deficit spending," Burns and Watson explain, "is part and parcel of the growth of government initiative and enterprise as a dynamic element in the economic system"[205] (whatever that means).

But the hazards of unrestricted spending are clearly visible to less visionary individuals. Despite the arguments advanced by the deficit spending enthusiasts, it is apparent to anyone who thinks clearly on the subject, or who reads the pages of history, that spending of borrowed money cannot continue indefinitely, even if it did have desirable effects while it lasted, Governments are no more exempt than individuals from the unpleasant fact that there is a limit to their credit. Sooner or later that limit is reached, and the borrowings must then stop. Other governments have found this out through painful experience. In our case the limit is higher than ever before, due to the wealth and productive capacity of the nation, but only the very credulous will contend that no such limit exists. Nor can it be avoided by bookkeeping trickery. Ultimately the day of reckoning will arrive.

The opposition to the free spending school of thought includes a group holding the view that in times of business depression the government should practice rigid economy, and should balance the budget by levying sufficient taxes to meet all expenses. The economy feature of this program is sound, not only during depressions, but at other times as well. Every dollar spent by the government means one dollar less for use by individual citizens to meet their own personal needs. No government expenditure is desirable, therefore, from the standpoint of the average individual, unless he gets as much benefit from it as he would from spending his proportionate share in his own way. A certain proportion of the normal government expenditures obviously meets this test. But there is a tendency, even in normal times, to overload the government payroll, and in depression periods, when other jobs are scarce, this overloading approaches the proportions of a national scandal. Government economy is a contribution to the general welfare at any stage of the economic cycle.

But the balanced budget doctrine does not have an equally solid footing. The use of credit to meet temporary exigencies is a sound policy. A farmer, for example, should not be expected to live within his income month by month, and alternate between feast and famine, depending on whether or not his crops are in season. If he does not happen to have reserve funds sufficient to take care of the lean months, it is entirely in order to rely upon credit until he receives the income from his labors. Government credit operations to meet temporary conditions are equally justified, but borrowing to "increase demand" by additional spending is an unsound practice that serves no useful purpose.

Although Keynes did not stress the point, and he may not even have realized it, what his prescription for overcoming deflation really amounts to is to give the economy a big dose of inflation. As our findings indicate, this is the natural and logical remedy for the disease. Keynes was therefore on the right track, but his "deficit spending" program is not one indivisible entity that has to be accepted or rejected in its entirety; it is a combination of two things , borrowing and spending. The purpose of the *borrowing* is to provide an additional money purchasing power flow into the markets to make up for the amount that is being withdrawn from the stream to fill the private money and credit reservoirs. The government spending that Keynes included in his program accomplishes nothing toward this objective, while it provokes reactions that are detrimental to the economy.

Both experience and the theory developed in this work emphasize the point that the government's fiscal program for dealing with deflation should not involve any increase in spending. All of the benefit that can be obtained is due to the increase in the money purchasing power flow to the markets by reason of the credit transaction. No further economic benefit can result from spending this money on unnecessary activities, and it is entirely possible that the additional spending will cause secondary reactions that will nullify all or most of the good effects of the increased money flow, just as actually happened in the United States between 1932 and 1939.The proceeds of the borrowing should be used exclusively to replace taxation, current taxes being reduced by the amount that is brought into the treasury through credit operations. When prosperity

returns it will be necessary to raise taxes above the normal levels to compensate for the reductions in times of stress, but the total tax load will not be increased, as it is where the borrowed money is spent on additional government projects. The taxpayers will have the same total amount to pay as if the budget were kept in balance, but they will be able to make the payments at those times when they are in the best position to pay.

Money purchasing power injected into the system through the tax reduction channel does not have the detrimental effect associated with those programs that take from the taxpayers to give to other groups. There may be some individual discrepancies, but on the whole, the taxpayers who get the benefit of the reduction are the same ones who ultimately pay the higher taxes to restore the balance. This avoids the unfavorable reactions that result from measures which divert earned income to finance questionable projects or to support able-bodied individuals in idleness. The existing pay-as-you-go income tax policy is particularly well adapted to the prompt and effective bolstering of purchasing power by means of government credit operations, since a temporary reduction in taxes affects the majority of workers almost immediately, and gets the stimulus down to the grass roots of consumer buying without delay.

As will be brought out in the next chapter, a flexible tax is not necessarily the best of the available means of controlling the business cycle, but it is a sound and effective method of accomplishing the desired results, and it has one outstanding merit: *there is no practical limit to the extent to which it can be used.*

For this reason, even if another primary control method is adopted, as will be recommended in the conclusions stated in Chapter 26, a tax adjustment program should be authorized and held in reserve, ready to be employed in the event of heavy surges that are beyond the capacity of the primary control mechanism. If the control program is put into effect during a time when there is a relatively large unbalance in the money flow, which is quite likely, since actions toward setting up facilities for keeping out of trouble are usually deferred until we actually get into trouble, it will be necessary to activate the tax adjustment program at the start of the control operation, and to

continue it until the fluctuations subside to the point where the less drastic measures will suffice.

It should hardly be necessary to point out that the feasibility of controlling the business cycle and maintaining price stability by government actions, either by tax adjustments or by other appropriate measures, is predicated on the assumption that what we are talking about is leveling out the fluctuations due to variable consumer expenditures and other non-governmental actions. If the government itself is causing the unbalance, we are powerless to do anything about the situation, as the inflationary actions by the government will have preempted the tools by which stabilization could otherwise be accomplished. Unless the government can bring its expenses down to the level of its income, or levy enough taxes to bring its income up to the level of its expenses, we will simply have to accept the inevitable inflation.

But the taxpayers would do well to realize that they cannot escape paying the bill for whatever their government spends. If they exert enough pressure to prevent a timid or self-centered government from imposing a large enough tax to cover current expenses, this gains them nothing. If the deficit is financed by borrowing, the taxpayer incurs an interest burden immediately. If it is financed by currency expansion, the amount of the deficit is automatically added to the market prices. For the purposes of this analysis we are presuming that it will be recognized by all concerned that it is futile to talk about measures to stabilize the economy unless the government first puts its own house in order, and stops creating the very conditions that we are undertaking to eliminate.

# CHAPTER 25
# Stabilization Measures – II

Since we have found that economic instability is primarily a matter of unstable market price levels due to a lack of balance between the two economic streams entering the markets – the stream of goods and the stream of money purchasing power – two possible methods of control to achieve stability immediately suggest themselves: (1) control of the goods stream, or (2) control of the purchasing power stream. As indicated in the discussion in the preceding chapter, however, control of the stream of goods is not practical, nor would it be desirable from an overall standpoint even if it were practical. This leaves the control of the purchasing power stream by compensatory reservoir transactions as the only immediately obvious answer to the problem.

It was demonstrated in Chapter 24 that government fiscal operations provide us with the kind of a money purchasing power reservoir that can be manipulated for control purposes. A countercyclical fiscal program of the kind outlined in that discussion is not without its disadvantages, however. The principal argument that has been advanced against it in the past is that so many delays will probably be experienced that the controls are unlikely;y to be applied at the right time. J. E. Meade assessed the situation in this manner:

> Some delay between any undesired disturbance and the corrective action is inevitable. First, there will be a delay between the occurrence of the initial change and its realization by the authorities. Secondly, there will be some constitutional, administrative, and political causes for delay between the realization of the initial change and the taking of the counter-measures by the authorities and thirdly, there will be some delay between the taking of the counter-measures by the authorities and the full development of the actual effects of these counter-measures upon the economic situation.[207]

The clarification of the nature and operation of the business cycle in the preceding pages points the way to elimination of a large part of

this delay. With the benefit of this new information there should no longer be any difficulty in recognizing an inflationary or deflationary trend as soon as it appears, and with a control program that modifies the stream flowing to the markets by direct additions or withdrawals of money purchasing power, there should be no delay in getting the full effects of the control measures. But delays of an administrative or political nature will be more difficult to eliminate, and unless there is a rather widespread understanding of the theoretical aspects of the compensatory fiscal policy, it is not unlikely that some essential element of the program may be omitted, or modified by political pressure to the point where it is ineffective.

One of the major obstacles to the introduction of a fully effective economic control program based on government fiscal policy is the existence of a school of thought which holds that tax cuts are good for the economy at *any* time; that they stimulate business and thereby increase governmental revenues enough to offset the revenue lost by reason of the lower tax rates. Hence they "cost nothing." Like all other schemes for getting something for nothing, this idea has great appeal to those who are unable to look behind the false front and see the fallacy on which it is based. But something for nothing is always an illusion, no matter how attractively it is packaged.

It is generally recognized that tax reductions in the face of constant, or increasing, government expenditures have the potential of causing inflation – nations all around the world are giving practical demonstrations of this fact every day – but the advocates of these reductions contend that inflation is not a *necessary* result, and that it can be prevented by taking direct action against any inflationary developments. For instance, both the Kennedy and the Johnson administrations reacted violently against efforts of basic industries to raise prices on occasions when inflationary trends were developing, and both administrations felt that they had won significant victories by compelling the producers to rescind the price increases (temporarily).

What the government officials and their economic advisers fail to see is that tax reductions that are not accompanied by corresponding reductions in government expenditures, or by non-inflationary borrowing, are *inherently* and hence *inevitably* inflationary.

Borrowing from the banking system is inflationary because the banks normally obtain new money from the Federal Reserve to replace the amount loaned to the government (by purchase of securities), and this new money, or a large part of it, adds to the flow in the circulating purchasing power stream. Borrowing from individuals is not inflationary, because these transactions do not change the total money purchasing power. The purchasing power of the individuals who buy the government bonds is decreased by the same amount that the purchasing power of the government is increased. Borrowing from foreign sources is also non-inflationary because it has no effect on the domestic purchasing power stream, but in this case the non-inflationary status is only temporary, as sooner or later the foreigners will want real values (that is, goods) instead of paper, and these goods have to be diverted from the stream going to the domestic markets, resulting in inflation of the price level. Redemption of the bonds sold in the domestic market does not produce a similar inflation, as in this case the government has to levy taxes to raise the money with which to redeem the bonds, and the total money purchasing power is not altered.

When spending (in real terms) remains unchanged every dollar added to disposable income by reason of lower tax rates means one dollar increase in the price of goods. Once the tax cuts have been made, the price rise cannot be avoided. As brought out in Chapter 10, direct control of the general price level is mathematically impossible. Any control of the prices of *some* items simply raises the prices of *other* items. However beneficial the actions of the Kennedy and Johnson administrations in blocking price increases in some individual items may have been politically, they were nothing but futile gestures from the economic standpoint.

However, the direct connection between government fiscal operations and the market price level that makes inflation the normal consequence of government deficits is not only an obstacle standing in the way of the dreams of getting something for nothing. It also has a positive aspect in that it provides us with a tool that can be used for economic stabilization. In this connection, it should be recognized that it is the inflationary or deflationary aspect of these operations that affects prices. A tax cut does not, in itself, inflate prices if it is

accompanied by a corresponding reduction in expenditures, as is so often recommended. The nation may be better off as a result of this combination of actions, if the reduction of expenditures is achieved by genuine economies and not be elimination of needed projects and activities. But the additional buying that the taxpayers are now in a position to do merely replaces the spending that the government has eliminated, and if the flow of money purchasing power to the markets was inadequate before the tax cut, it remains inadequate. A tax cut is of value *as a business stimulator* only by reason of what it accomplishes in the way of creating a government deficit.

Furthermore, it is not even sufficient just to create a deficit; it must be an inflationary deficit. As brought out in the preceding paragraphs, if the deficit is financed by non-inflationary borrowing, the total available money purchasing power remains unchanged, and the tax cut has no effect on general business conditions. It is not the *tax cut* that stimulates business; it is the *inflation.* Money inflation stimulates business because it subsidizes business profits at the expense of the consumers. If the tax cut is so handled that it does not produce inflation, than there is no increase in profits, and no stimulation. This is another illustration of the "no free lunch" principle. If the tax cut does not produce inflation, no one is paying the bill, and consequently no one gets any benefit.

From a technical standpoint, flexible tax rates constitute a very effective stabilization tool. We must recognize, however, that variable tax rates have a serious disadvantage in that the required manipulation is too conspicuous. Even at best the general public cannot be expected to understand all of the intricacies of purchasing power stabilization, so there will inevitably be public pressure tending to favor increased government borrowing beyond the actual needs when borrowing is in order, and to resist the liquidation of outstanding debt when the technical position calls for an input into the reservoirs. This is not necessarily an insurmountable obstacle. If no other adequate control measure were available, it would be entirely possible to go ahead with a variable tax program, either on the basis of overriding whatever resistance may develop, or preferably, by accompanying the program with an educational program to promote a better public understanding.

A suggestion that has been made to minimize the public opposition that is likely to develop when tax increases are required is to separate the stabilization tax or rebate from the normal taxes, so that the taxpayers will realize that the amount of this special tax or rebate is merely a temporary adjustment, and will sooner or later be offset by an equivalent adjustment in the opposite direction. In its original form this proposal contemplated an entirely separate tax, the idea being to level a tax on all retail sales when the price index exceeds a certain standard, and to make a corresponding rebate on sales when the index falls below the standard by a given percentage.[208] In the light of the information developed in the preceding pages, it is apparent that this proposal, in its original form, is unsound, as any attempt to maintain a fixed price level is detrimental to the economy. It could, however, be modified to operate on the basis of the condition of the money and credit reservoirs, levying the tax when the excess of the reservoir transactions is outward, and applying the rebate when there is a net inflow.

The central idea of this plan, that of clearly identifying the stabilization component of current taxes, so that the taxpayer would realize that whatever gain or loss may thereby accrue to him is only temporary, has considerable merit. However, a wholly separate tax is not essential for this purpose. The expense and inconvenience of a separate tax system could be avoided by applying the stabilization tax or rebate as a percentage of the income tax computed on the regular basis. In this form, the proposal should be feasible, both technically and politically. It is true that there is no real difference between a increase in the tax rate and an equivalent percentage surtax applied to the normal taxes, but the obstacle to be overcome is psychological, and there is a psychological difference between the two methods of handling the situation. The general reaction to the news that taxes are to be raised is quite unfavorable, but once the public becomes accustomed to a regular adjustment which is downward as often as it is upward, the necessary changes will, in all probability, be accepted as a matter of routine.

Nevertheless, in spite of all that can be said in favor of tax adjustments as a means of economic control, and regardless of

what may be done to make those adjustments more palatable to the taxpayers, it is clear that an unobtrusive primary method of control would be advantageous, if such a method is available.

In making a detailed examination of the possibilities along this line, we find that there is another alternative in addition to the two general methods of stabilization previously discussed: control of the goods stream or control of the purchasing power stream. The third alternative is to equalize the flows by interchanging goods and purchasing power and diverting enough from one stream to the other to bring about an equality.

At first glance this may seem absurd, as conversion of wheat to dollars, or anything of that nature, is obviously impossible. But even though it is not possible to convert *real goods* to money, it is possible to convert *credit goods* to *credit money* and vice versa. Since both of the streams entering the markets contain substantial amounts of credit instruments, it is entirely feasible to meet an inflationary threat by withdrawing credit money from the purchasing power stream, converting it to credit goods, and injecting these goods into the goods stream flowing to the markets. In order to counter deflation, all that is necessary is to reverse this action.

So far as the primary objective is concerned, it makes no difference whether the control measures are applied to one stream alone or involve diversion from one stream to the other. Either method is capable of equalizing the flows in the two streams, and that is all that is required for stability. The interchange between credit goods and credit money does, however, have some practical advantages that warrant serious consideration. One of these is that the interchange is twice as effective as a corresponding unilateral transaction. If the inflationary unbalance is a million dollars per day, for example, a million dollars per day must be withdrawn from the purchasing power stream in order to maintain an equilibrium by this kind of a transaction alone. But a half million dollars of credit money withdrawn daily from the purchasing power stream and injected into the goods stream in the form of credit goods will accomplish the same purpose.

Another major advantage is that no one gains or loses by the transaction, even temporarily, and this program therefore avoids the

possible adverse public reaction that constitutes the strongest objection to control by means of government fiscal operations. Fluctuations in the disposable incomes of the individual taxpayers such as those that would result from the operation of a flexible tax system are not only objectionable in themselves but, as has been pointed out, are a constant threat to the successful handling of the control mechanism, as there will always be political pressure for more liberal tax reductions when reductions are in order, and a resistance to tax increases when increases are in order. Unless the authorities are more callous toward this political pressure than government officials can normally afford to be, there is a hazard of destroying the effectiveness of the system. The interchange between credit goods and credit money, on the other hand, is a balanced transaction from the standpoint of the individuals concerned. There will have to be a small price differential to enable the transactions to be carried out when and in the amounts needed, but aside from this, each participant simply exchanges one asset for another of equal value.

An important consequence of this fact that there will be no substantial gain or loss to anyone is that the control transactions can be carried out as routine business dealings without attracting the widespread public attention that is given to increases and decreases in taxes. This is a definite advantage, particularly in the early stages of the operation of the control system, when its effectiveness is still questioned by skeptics, as a public advertisement of the intention of the government to take steps to combat inflation is, in itself, likely to have an inflationary effect (that is, cause increased withdrawals from the money reservoirs). Of course, a fully effective control program should be able to handle any situation that may develop, but nevertheless, it is clearly desirable to keep the load on the control system as low as possible, and for this reason it is helpful to keep as much as possible of the manipulation behind the scenes.

The Federal Reserve System already has the legal power to operate a control program of the kind suggested. One of the powers granted to it by existing laws is that of buying and selling government obligations and certain other classes of securities in the open market for the purpose of carrying out the policies established by the Federal Reserve Board. Before 1922 these powers were exercised in

a rather haphazard and unorganized fashion by the separate Federal Reserve Banks, but by this time the potential of these *open market operations* was beginning to be more clearly realized, and a new policy was adopted which put the execution of the program in the hands of a central committee.

In the period from 1922 to 1927 the open market powers were used on several occasions with uniformly favorable results, and the banking authorities became convinced that they had found a least a partial answer to their stabilization problems. The 1929 action, however, was not well timed, and accentuated an inflationary tendency already under way. As a result, the sale of securities had to be undertaken in 1928 and 1929 to stem the rising tide of speculation and inflation, but to the dismay of those who had regarded the open market operations so optimistically, this action had little apparent effect, even though it was carried to the point where the supply of securities on hand was practically exhausted. After the stock market crash in the fall of 1929, buying was begun, and large purchases were made throughout most of the decline, again with little or no visible results. As expressed by W. Randolph Burgess of the New York Federal Reserve Bank, from 1922 to 1927 the response to relatively small changes in Federal Reserve policy were extraordinary, but in 1928-29 and later the most vigorous measures had relatively little effect.[209]

In order to appreciate what happened, and why the operations were effective at one time and ineffective at another, it must first be understood just what the open market operations do to the economic system in general. The bankers, accustomed to looking at the situation from the standpoint of the technicalities of their own business, regard these operations as a means of credit control, and so label them in their financial discussions. As they see the picture, purchase of securities by the Federal Reserve expands the reserves of the member banks, whereas reversing the process contracts those reserves. The effect, according to this view, is to make the bankers either more or less willing to lend.

But we who are investigating the reactions of the economic mechanism as a whole are not interested, for the present, in these inter-bank relations. From the standpoint of the general economy, the entire banking system is one unit. An increase in bank reserves

is an increase in the amount of money storage in the banks. But if this increase is the result of a transaction by which a corresponding decrease occurs in the amount of money in storage in the Federal Reserve Banks,, the net total change in money storage is zero, and there is no effect at all on the general economy.

The open market operations are effective as inflationary or deflationary measures only to the extent that these transactions do *not* affect the bank reserves; that is, to the extent that the securities are bought from or sold to non-bank investors, directly or indirectly. The principle here is the same as that involved in government borrowing. Sale of bonds to non-bank purchasers "soaks up" excess money purchasing power; sale to the banks does not. In the non-bank transactions additional credit goods (government bonds) are introduced into the goods stream, while the money purchasing power stream remains unchanged. Market prices then fall, or are prevented from rising in response to inflationary forces.

These operations in the open market, excluding purely inter-bank transactions, are a means of accomplishing the same kind of a result (or the reverse) by a transfer between credit goods and credit money. Credit goods (government securities) are withdrawn from storage and exchanged in the market for credit money, which in turn is put into storage (retired from circulation). In the reverse transaction credit money is withdrawn from storage (new currency is issued) and it is exchanged in the market for credit goods. The latter than go back into storage. By this means the current stream of money purchasing power is increased or decreased relative to the stream of goods, without altering any other economic relation except the *form* of a portion of the national debt outstanding.

Here is a very simple and effective tool for controlling the economy. If stabilization is undertaken as a continuous process, the net excess of transactions to be counterbalanced by the open market operations will never be very large, as each small deviation in one direction or the other can be nipped in the bud by the appropriate action. The key to successful control is a clear understanding of just what is to be done, and a close watch on the relevant data to make certain that action is taken promptly when needed. Heretofore the Federal

Reserve authorities have neither recognized the true effect of the operations on the business cycle, nor possessed an adequate guide as to when action should be taken, or as to the magnitude of the operations required. As a result there has been no action at all until the unbalance has become large enough to be plainly visible, and when action finally has been taken, the operations have conformed to a set pattern rather than being adapted to the quantitative requirements of the existing situation.

This explains the seeming discrepancy between the 1922-1927 results and the subsequent experience. When the open market operations were first placed on a definite policy basis, the magnitude of the individual operations was arbitrarily set at a figure of from 200 to 500 million dollars, for lack of any accurate method of determining the actual requirements. In the 1922-1927 period no strong trend in either direction developed in the money and credit reservoirs, and open market operations of this size were therefore adequate not only to neutralize the net transactions into or out of the reservoirs, but were also sufficient to give the general economy a momentum in the opposite direction. In 1928 and 1929 the picture was entirely different. Now the nation was in the midst of a speculative boom, with money purchasing power flowing out of the consumer money and credit reservoirs in a veritable flood. The transactions that were ample to counterbalance the small streams that issued from the reservoirs in the previous years were of no avail against this tremendous volume. It was just another case of sending a boy to do a man's work. The same comments apply to the situation after the 1929 collapse, with additional emphasis.

The failure of this program to stem the money inflation of 1928-29 and the subsequent deflation was not due to any defect in the method itself; it was merely a matter of too little and too late, the employment of mild and gentle measures where only action of truly epic proportions would suffice. It is very common for the advocates of an unsuccessful economic program to try to explain away the failure by the assertion that the program was not applied on a large enough scale, and there may possibly be some suspicion that the foregoing explanation is the same kind of an excuse. By referring to the discussion of business cycles in Chapter 14, however, it can be seen that the reservoir theory

therein explained definitely requires the corrective operations to be equal in magnitude to the net excess of consumer transactions in order to have the desired effect. The quantitative aspect of the action – not too much and not too little – is the essence of the program. From the statistical records of the movement of money and credit it is apparent that the 1922-27 open market operations were adequate to meet this requirement, whereas the operations in 1929 and the following years were far below the necessary level, not because they were smaller, but because the reservoir unbalance was vastly greater.

This is not the kind of a situation where a partial action does some good. The decline can be slowed by measures of less than the magnitude required for neutralization of the reservoir transactions, but it cannot be halted unless the storage of money and the contraction of credit are *fully* balanced by the control operations. Slowing the rate of decline is of no particular value. It probably does more harm by prolonging the depression than it does good in any other respect. Anything short of the full amount needed to restore equilibrium is useless. Obviously the Federal Reserve operations during the 1928-29 boom and the following depression, large as they seem when judged by normal standards, were trivial in comparison with the coincident huge unbalanced transactions in and out of the consumer money and credit reservoirs.

The lessons to be learned from this experience are first, that speculative excesses should not be permitted to get a start, and second, that the stabilization program should be automatic and continuous, so that no inflationary boom or deflationary recession will have a chance to get beyond the point where it can be handled effectively by ordinary means. If the wild swings due to speculation are curbed, bank credit is carefully watched, and foreign trade is subjected to some intelligent control, there is no doubt but that the minor ups and downs that will still occur can be ironed out by a small but continuous program of open market operations. All that is necessary is that the Federal Reserve keeps fully informed as to the current status of the purchasing power reservoirs and balances any net inflow or outflow promptly by open market operations of the opposite character and exactly the same amounts.

The result of such a program will be to maintain the price balance between production and the markets, and to insure a flow of money purchasing power to the markets that will be just sufficient to buy the full volume of goods produced at the full production price. It will not mean a constant market price level; on the contrary, any changes at the production end of the economic mechanism, either because of altered tax or wage rates or because of technological improvements, will be promptly reflected in the market price level, but such variations have no adverse effect on the general economy. The stabilization of the flow of money purchasing power will eliminate the destructive price fluctuations, those due to an unbalance between production volume and active money purchasing power.

As indicated in the preceding chapter, it sill be advisable to authorize and set up a tax adjustment program to be held in reserve for use when and if there is a heavy surge in the system which the open market operations might have difficulty handling. Probably this program will never be needed, except perhaps in getting the stabilization program started, but there are some limitations on what can be done by the interchange of credit goods and credit money, and as long as a tool that is essentially unlimited in available, it is good insurance to have this tool ready for prompt use in case of an emergency. Actually, the fact that it is available will go a long way toward eliminating the possibility that it may be needed.

The stabilization program that is here being recommended leaves business and government free to operate in almost all respects just as they would in the absence of such economic controls. Nevertheless, it is impossible to set up a program of this kind without affecting *something.* If the open market operations are to be used as the primary means of economic control, then *they cannot be used for other purposes.* The particular significance of this point lies in the fact that these operations *are* currently being used for other purposes. One action that has frequently been taken is to buy government securities at appropriate times as a means of supporting the price of those securities; that is, keeping the interest rate artificially low to hold down the cost of government financing. In order to make the open market operations available for control purposes these support purchases will have to be discontinued.

Since this will increase the amount of interest that has to be paid on the national debt, there will undoubtedly be some opposition to discontinuing this price support, particularly from the Treasury Department, which is quite legitimately concerned with keeping the interest cost as low as possible. If we assume, for the moment, that holding the interest rate down is a worth-while objective, and that the cost of government financing will be substantially increased if the price support actions are no longer taken, the question becomes: Is stabilization of the economy at a permanent high level worth enough to justify this increase in interest costs? There cannot be any doubt as to the answer to this question. The added interest costs are only a drop in the bucket compared to the losses that are now being incurred by reason of the economic fluctuations of the business cycle.

But, in reality, holding down the interest rates on the government debt is not as desirable an objective as it appears to be on superficial examination. When we examine the situation more closely, it becomes evident that the "low interest" policy does not actually reduce the cost to those who pay the bills: the taxpayers. The artificially low interest rate is made possible only by creating new money for the Federal Reserve banks to use in buying government securities to support their prices. Injection of this new money into the purchasing power stream automatically raises the market price level, and the taxpayer pays out in higher prices all that the lower interest rate saves on his taxes. Behind all of the machinery by which it is carried out, this "management" of the interest rate is simply another attempt to get something for nothing, and it shares the fate of all other schemes of this nature.

In recent years, the most significant use of the monetary tools of the Federal Reserve System, including the open market operations, has been to manipulate the interest rate as a means of combatting inflation. As pointed out earlier, this is a prime example of economic mismanagement. We create cost inflation by adopting a labor policy that imposes no significant restraints on wage increases, and then deal with the cost inflation due to these wage increases by choking business with high interest rates to create the unemployment that will bring the wage rates back down. One of the prerequisites for constructing a workable program to stabilize business is to recognize that such

a program should be directed against money inflation only. Cost inflation has no major effect on the general economic situation. It does create inequities among different classes of workers, and therefore deserves some attention, but this is a totally different problem, which should not be permitted to confuse the stabilization issue.

Thus the fact that we will have to discontinue using the open market operations for these other purposes in order to make them available as the principal tool of the stabilization program is not an argument against the program. These other uses should be discontinued in any event, as they do not benefit the economy. Where they have any effect at all, it is harmful.

# CHAPTER 26
# Comments and Recommendations

In concluding the presentation it is appropriate to make some general comments with respect to the results of the work. First, let us consider what has been learned about the two basic questions raised in the introductory chapter: (1) Why has progress in the economic field been so slow and uncertain compared to the progress that has taken place in science? (2) Would the application of scientific methods to the subject matter of economics speed up this unsatisfactory rate of progress?

Our findings show that the answer to question (1) is that sustained forward progress is not possible without a sound theoretical foundation, and sound theory can only be constructed on a solid factual basis – what actually is true – it cannot be based on emotional judgments as to what ought to be true. The explanation for the failure of economics to establish any record of accomplishment comparable to that of physical science is that the economic profession has no general structure of theory that is valid in application to the real world.

As mentioned earlier, it is admitted in professional economic circles that *present-day economics has no theory applicable to the kind of an economic system that now exists in the United States.* For instance, J. K. Galbraith couples an acknowledgement of the effectiveness of the American system with an admission that this success is inexplicable on the basis of accepted economic theory in this statement, part of which was quoted in Chapter 1:

> The present organization and management of the American economy are also (like the bumblebee) in defiance of the rules – rules that derive their ultimate authority from men of such Newtonian stature as Bentham, Ricardo and Adam Smith. Nevertheless it works, and in the years since World War II quite brilliantly.14

The complete inability of economic theory to deal with major problems of the economy when they develop confirms Galbraith's

contention that the American economy does not operate according to the economists' "rules." As Heilbroner and Thurow point out, accepted theory is as helpless today against inflation as it was in the 1930's against depression.

> Against this terrible reality of joblessness and loss of income (in the thirties), the economic profession... had nothing to offer.
>
> In many ways the situation reminds us of the uncertainty that the public and the economics profession share in the face of inflation today.[210]

The most bitter antagonists of the individual enterprise system, the Marxist socialists, also freely admit that their theories cannot explain the remarkable results that have been obtained from what they call the "capitalist" system in the United States. Earl Browder, former head of the Communist party in this country, has devoted an entire volume to an examination of the failure of Marx' theories in application to the American economy. In this book, *Marx and America,* he concedes that if the basic assumptions of Marx and Ricardo "are accepted as valid, then the rise of modern industry in America constitutes an unexplainable miracle."[211]

When the most successful economic system in existence operates "in defiance of the rules" laid down by the economic theorists, and is beyond the understanding of the economists of two worlds – inexplicable to one and an "unexplainable miracle" to the other – then it is evident that the rules and the theories of the economists of both schools of thought, and the conclusions that they draw from these rules and theories, are not authoritative statements applicable to economic systems in general, or to the American economic system in particular. If they have any validity at all, they are applicable only under special circumstances of a kind which do not exist in the United States. In order to explain the American economy and to predict its response to the various stimuli that may affect it, a completely new theoretical structure is required, the kind of a solidly based emotion-free theory that is presented in the two volumes of this work.

The existing situation in the field of wage theory is an outstanding example of what is wrong with present-day economic thought. More than half of the human race lives under the precepts of Karl Marx which contend that "The very development of modern industry must

progressively turn the scale in favor of the capitalist against the workingman, and that consequently the general tendency of capitalist production is not to raise, but to sink the average standard of wages, or to push the *value of labor* more or less to its *minimum limit.*" Anyone who does not close his eyes completely knows that American experience has been diametrically opposite from what Marx predicted, but there is a widespread tendency to regard the Marxist *theory* as correct, and to attribute its failure to work out in practice to some unspecified matters of detail. Browder, who quotes the foregoing statement by Marx, and admits that it missed the mark completely, still contends that "it is on the ground of historical evidence that this dogma must be refuted, and not on the grounds of logic."[212]

Few non-communists are willing to be quite as explicit in endorsing the logic of Marx' theory, in view of the strained political situation now existing, but a substantial segment of present-day economic opinion accepts the basic premise of the theory, the view that a conflict exists between the interests of the employers and those of the workers, in which any gain by one party means a corresponding loss to the other. This school of thought attributes the conspicuous lack of success of Marx' predictions to the development of a counter-force in the hands of the labor unions and the government that has made the contestants more evenly matched than Marx anticipated.

Keynes did not fall into either this or the basic Marxist error. He recognized more clearly than most of his colleagues that the money wage rate is meaningless as a measure of the compensation that a worker receives for his services; that the real wage rate is the significant quantity, and that the "struggle about money-wages" does not change the average real wage rate. The latter, as he says, "depends on a different set of forces." But the economic profession in general, which accepted Keynes' deficit spending theories with alacrity and whole-hearted enthusiasm, has practically ignored his analysis of the wage situation. The question then arises, Why did these two theoretical products coming from the same eminent source meet with such radically different receptions?

The answer to this question is the key to an understanding as to why progress has been so slow in the economic field. The economic profession in general refuses to accept Kaynes' analysis of the

wage situation, not because the premises on which it is based are deficient in logic – which they are not – nor because it conflicts with the observed facts – which it does not – but simply because today's sociologically oriented economists *do not want to accept it.* Their emotional reaction to any such idea is antagonistic because, as Dale Yoder expressed it in the statement quoted in Chapter 20, if this viewpoint is correct there is "little anyone could do to improve the status of wage earners," and improving the status of wage earners is one of the objectives to which they are dedicated. The deficit spending doctrine, on the other hand, was promptly accepted because the socially conscious economists want more government spending, as they are more in sympathy with the projects on which the government funds are spent than with the purposes for which the individual consumers use their income.

Here is why the economic profession has no valid structure of theory that can be applied to solving our present-day problems. Too many of the principles upon which the economic theorists are basing their reasoning are not natural laws based on experience, but assumptions that are emotionally acceptable to them. For example, Samuelson and Nordhaus, who classify themselves are being in the "mainstream" of American economic thought, give us this picture of "classical" thinking on the wage issue:

> The classical economists preached an economics that was the dismal science of unalterable distribution of income. The wages of labor, the rent of land, the profit of capital were determined by economic law, and not by political power. If labor unions or reform political parties tried to use the state to modify these facts of life, they would be ineffective in the end.

These authors then went on to say:

> America of the 1960s would accept no such limited conception.[213]

They do not cite any evidence to invalidate the "unalterable distribution of income"; they do not even say that it is wrong; they simply say that America, and by implication the American economists, will not accept it. Here we have a clear illustration of the economists' attitude toward their subject matter. Even these "mainstream" members of the profession seem to take it for granted that they have the option of accepting economic laws or rejecting them and substituting assumptions that are more to their liking.

Attempts to solve *real* problems by applying such unrealistic inventions are doomed to failure from the beginning. This is the kind of a situation in which replacement of emotional judgments by the cold-blooded factual methods of the scientist can lead to significant advances, and in the preceding pages such gains have materialized. It has been demonstrated that when the emotional approach is laid aside, and a sound structure of theory is constructed on a factual foundation by the same effective and efficient methods that are used in the physical sciences, most of the obstacles that have stood in the way of progress in economic understanding are eliminated.

A rather ironic feature of this situation is that in many cases the factual analysis shows that the automatic reactions of the economic mechanism produce results that are *more favorable from the economists' sociological viewpoint* than their own ideas as to how the economy ought to operate. For example, we have verified the classical economists' contention that the distribution of income is fixed and unalterable, and we can accept the quoted statement of their views on this subject word for word, except for the characterization of these views as "dismal." But we find that the net result of the fixed distribution pattern is quite different from what the economic theorists have anticipated, and it is, in fact, far more favorable to the workers than the results that would be produced if the preferences of either Marx or present-day economists could be put into effect. According to the findings of economic science, the workers get all of the benefit of increasing productivity, and they get it automatically. Political or social pressure can do nothing more, because there is no more. Certain occupational groups or labor unions may make additional gains, but only at the expense of all other workers.

In applying scientific techniques to the economic field we have first separated the *factual* aspects of economics, those aspects that can be treated by the precision methods of the physical sciences, from the matters of opinion and judgment with which the present-day socially oriented economist is mainly preoccupied. We have then analyzed those factual aspects of economic life in terms of the flow and interaction of quantities that are capable of *specific definition* and are *conserved.* By dealing with quantities of this nature that can be followed from process to process with quantitative accuracy, in

the same manner as energy, mass, and the other basic quantities of the physical sciences, rather than using the vague and ill-defined quantities in terms of which orthodox economics operates – such things as "demand," "propensity to consume," etc. – we have been able to establish the basic laws and principles governing the relations within the economic mechanism on a definite and unequivocal basis.

Application of these principles to the fundamental economic problems then enables us to see clearly what objectives are realistic and attainable, and what actions are necessary in order to achieve these objectives. With the benefit of this information we are then in a position to analyze the various measures for dealing with economic problems that have heretofore been proposed, or that may have been suggested by the investigation itself, and to determine specifically what contribution, if any, each is capable of making toward the designated objectives.

In some respects the task that has been carried out in this work resembles that of building a house on a steep hillside. The preliminary work on the site and the construction of the foundations may be far more of an undertaking than the erection of the house itself. The most tedious and time-consuming phase of this economic project has been to clear away the underbrush of erroneous concepts and beliefs that characterizes so much of modern economic thought. Once this tangled mass of misconceptions was removed so that a clear view of the true situation could be obtained, the cause of, and remedy for, the particular problem under consideration in this volume – the stabilization of business conditions – was practically self-evident.

Just as soon as we understand the operation of the auxiliary stream of purchasing power created by the introduction of money and credit into the economic organization, and the role that this money purchasing power stream plays in the economy, it becomes obvious that variations in the flow into and out of the reservoirs located in this stream are the cause of the economic fluctuations that we call booms and recessions. It is then likewise obvious that these fluctuations can be eliminated by controlling the reservoir flows in such a manner as to equalize total input and total output.

The foregoing, simple as it is, contains the essence of this entire work, so far as the stabilization problem is concerned. When we

undertake to develop practical methods for putting these findings into effect, however, the situation becomes more complicated because each of the practical programs has collateral effects of one kind or another. Selection from among the various feasible alternatives involves not only the question as to how effectively each accomplishes the primary objective, but also an appraisal of the advantages or disadvantages that will be experienced as by-products of each program. The alternatives have been analyzed from these standpoints in the two preceding chapters, and our conclusion is that the necessary control can be exercised most effectively and efficiently by an interchange between credit goods and credit money; that is, by the open market operations of the Federal Reserve System, modified to operate on the basis of counterbalancing the net reservoir input or output.

Since it is evident that any supplementary measure that has the effect of reducing the amplitude of the fluctuations that are to be neutralized by the control system will contribute to the ease of operation of the controls, various possibilities of this kind have been studied, and two of these are recommended as part of the complete stabilization program. It should be understood, however, that the use of auxiliary measures of this nature is not essential, it is merely helpful, and if there are too many objections to one or more of the proposed auxiliary measures, these can be modified, or even eliminated. The only absolutely essential feature of the program is the direct control mechanism, not necessarily the particular mechanism herein recommended, but some effective control. The interchange between credit goods and credit money by means of the open market operations could be replaced by some other direct control measure – an appropriate program of tax flexibility, for example – but an effective direct control is essential.

With this understanding as to the nature of the recommendations that have been made in the foregoing pages, we may summarize these recommendations as follows:

1. **Set up the necessary machinery to make a continuous measurement of the flow of money into and out of each of the purchasing power reservoirs.**
2. **Dampen the cyclical movements of reservoir input and output by**

   a. **Basing the maximum legal loan value of securities and real estate on the long term trend of value rather than on the current market appraisal.**
   b. **Utilizing the credit control facilities of the Federal Reserve System to reduce net reservoir inputs or outputs when these movements become, or threaten to become, abnormally large.**
3. **Eliminate the remaining fluctuations in the aggregate reservoir levels by putting the open market operations of the Federal Reserve System on a definite and automatic basis, requiring the System to purchase or sell securities to individuals or non-bank agencies at frequent intervals in amounts just sufficient to neutralize net transactions into or out of all other consumer money reservoirs.**
4. **Be prepared with a program of flexible tax rates for use in the event that stronger measures are necessary to meet a temporary situation.**

If these recommendations are put into effect, the alternation of booms and recessions that we call the business cycle will be eliminated. This will not cure all of our economic ailments. Indeed, one of the most serious weaknesses of present policies is that the Federal Reserve System, which has only one kind of weapon – monetary management – in its arsenal, is being expected to take case of a whole range of economic problems. As stated by J. S. Duesenberry,

> The Federal Reserve System has been concerned with four major objectives of economic policy: (1) full employment; (2) price stability; (3) economic growth; and (4) a satisfactory balance of payments... at times the different objectives appear to be in conflict with each other.[214]

The reason why it is not even clear whether such a conflict exists – why it can only be said that they "appear to be in conflict" – is that monetary policy has only an indirect and uncertain bearing on three of the four objectives listed. The existing difficulties in these areas can be effectively resolved only by measures specifically adapted to each separate situation. The requirements for full employment and for the optimum growth rate were discussed in *The Road to Full Employment.* The actions that are necessary to correct the present adverse balance of payments have been defined in Chapter 17. Monetary management is not capable of achieving any of these three objectives, and the attempts that are now being made in these directions are simply reducing the effectiveness of the monetary tools in accomplishing the significant task to which they are well adapted: the stabilization of the economy.

If the nature of the stabilization problem is clearly understood, the misdirection of effort in pursuing objectives that cannot be reached by monetary policy is discontinued, and the monetary tools are properly applied in accordance with a program of the kind outlined in this volume, the cyclical fluctuations can easily be smoothed out. In the resulting stable economy, business enterprises will not experience the artificial kind of prosperity that now exists during an inflationary boom, when even very inefficient operations are able to earn profits, but they will have a good, consistent, and predictable working situation in which it will not be necessary to worry about the possibility that their calculations may be upset by a downward turn in the general state of the economy.

Cyclical unemployment, including both the severe loss of jobs that occurs during major depressions and the significant, but less drastic, increase in unemployment that accompanies minor dips or recessions in business activity, will be eliminated. The chronic unemployment that now exists even during periods when business is relatively prosperous will still remain, but the way will be cleared for the development of additional measures of a purely *employment* character to take case of this remaining problem. The previously published volume, *The Road to Full Employment,* is devoted to an examination of the cause of this quasi-permanent type of unemployment, and to the formulation of a program that will provide self-supporting jobs for all.

Inflation will no longer be a problem for the economy as a whole; that is, the real purchasing power of the average consumer will remain stable at the level established by average productivity. The problem of an equitable allocation between different economic groups will still remain, but the questions involved in this problem, such questions as to whether the present "bargaining" method of wage and salary determination should be replaced by a system that is less biased toward certain favored groups, will require some additional decisions by the general public, and are beyond the scope of this work.

It should be understood that this stabilization program is specifically addressed to the elimination of *money inflation.* Cost inflation, the type of inflation due to increases in wage rates and business taxes, will not be affected by the proposed measures. Money inflation has

adverse effects on the economy as a whole (mainly because it must inevitably be followed by deflation). Elimination, or reduction, of this type of inflation is therefore clearly desirable, and is already a recognized national objective. The application of economic science to the problem is therefore definitely in order. Cost inflation, on the other hand, has little effect on the general economic situation, and does not alter the ability of the average consumer to buy goods. The increase in money wages does not change the average real wage, nor does the increase in business taxes (which is passed on to the consumer) alter the total tax burden, which is determined by the amount of government expenditure.

The objectionable feature of cost inflation is that the actions which cause this type of inflation, especially the wage increases, favor some individuals or groups, at the expense of the others. While this policy is certainly discriminatory, it has strong support from those who gain, or believe that they gain, from it. The question as to whether or not cost inflation should be eliminated is thus a social and political issue, rather than the kind of a factual problem for which economic science can provide an answer. It is therefore up to the community at large to decide whether the fruits of increasing productivity should continue to be allocated mainly to certain special groups, or whether market forces should be allowed to exert more influence. Whatever decisions are made on these issues can easily be implemented without any significant effect on the general economy.

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In The Road to Permanent Prosperity Dewey B. Larson develops a complete economic theory that is firmly grounded on a set of principles and on deductions from such principles. The laws of economics are shown to be as inexorable as the laws of nature. The author's approach is that of an engineer describing the workings of a complex machine. Having formulated the principles to which the economic machine conforms, he derives a simple but far-reaching General Economic Equation that governs its operations. He shows how such tools make it possible to control the economy and thereby endure that it durably performs at its optimal potential.